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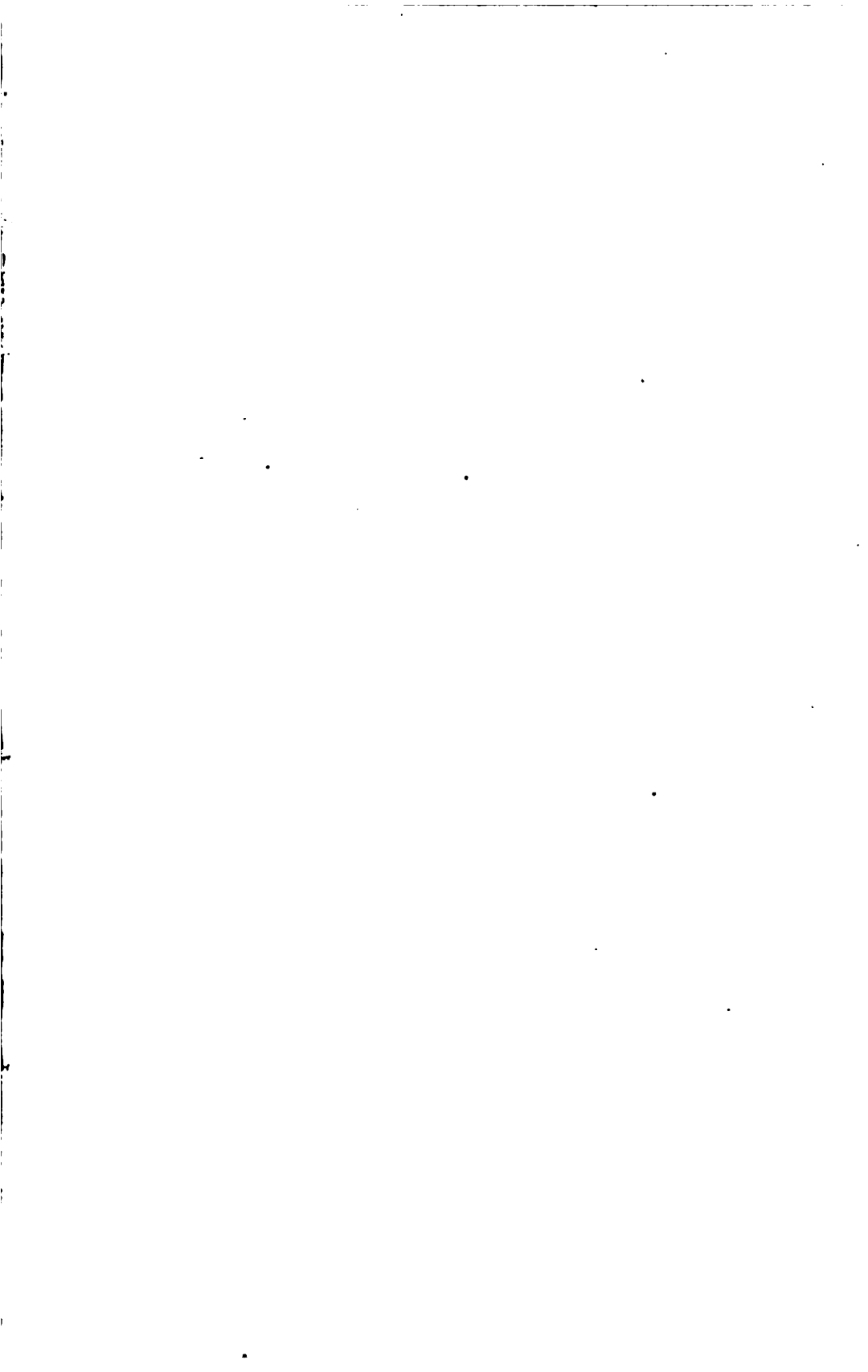


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# ANNUAL REPORT

OF THE



# SURGEON-GENERAL OF THE PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE OF THE UNITED STATES

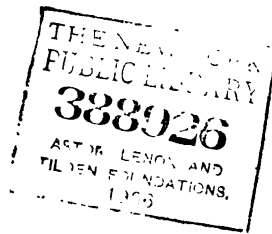
FOR THE

FISCAL YEAR 1905.



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1906  
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TREASURY DEPARTMENT.

Document No. 2427.

*Public Health and Marine-Hospital Service.*







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OPERATIONS  
OF THE  
UNITED STATES PUBLIC HEALTH AND  
MARINE-HOSPITAL SERVICE.  
1905.

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## LETTER OF TRANSMITTAL.

TREASURY DEPARTMENT,  
*Washington, January 3, 1906.*

SIR: In accordance with section 9 of the act of Congress approved July 1, 1902, entitled "An act to increase the efficiency and change the name of the Marine-Hospital Service," I have the honor to transmit herewith the annual report of the Surgeon-General of the Public Health and Marine-Hospital Service for the fiscal year 1905.

Respectfully,

LESLIE M. SHAW,  
*Secretary.*

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.



# ANNUAL REPORT

OF THE

## SURGEON-GENERAL PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.

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### REPORT TO THE SECRETARY.

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TREASURY DEPARTMENT,  
BUREAU OF PUBLIC HEALTH AND  
MARINE-HOSPITAL SERVICE,  
*Washington, D. C., November 20, 1905.*

SIR: I have the honor to submit, for transmission to Congress, in accordance with the act of July 1, 1902, the following report of transactions of the Public-Health and Marine-Hospital Service of the United States for the fiscal year ended June 30, 1905, this being the thirty-fourth annual report of the Service in the one hundred and seventh year of its existence, and the fourth annual report under its new name.

#### PERSONNEL.

At the close of the fiscal year the commissioned corps of the Service consisted of 120 officers, as follows: The Surgeon-General, 5 assistant surgeons-general, 26 surgeons, 52 passed assistant surgeons, and 36 assistant surgeons.

A chemist was appointed as chief of the division of chemistry, hygienic laboratory, in accordance with the provisions of an act of Congress approved July 1, 1902.

Five sanitary inspectors were on duty at the close of the fiscal year; 190 acting assistant surgeons, including 8 appointed for duty at fruit ports in Central and South America and those on duty at Bombay, India; Rio Janeiro, Brazil; Guayaquil, Ecuador; Hongkong, China; Naples, Italy, and Kobé, Japan; and 2 female medical inspectors, one on duty at Honolulu, and the other at San Francisco quarantine station, and 1 sanitary assistant was employed for duty at Callao, Peru.

Thirteen internes were on duty at the close of the year, and 48 pharmacists, divided as follows: Sixteen of the first class, 23 of the second class, and 9 of the third class.

There were 12 pilots and 21 marine engineers on duty at the close of the year, and 670 hospital attendants, not including 67 appointed to duty in the Philippine Islands.

Forty-five boards of commissioned medical officers were convened at different places and at various times during the year, 32 of which were for the physical examination of officers of the Revenue-Cutter Service and applicants for entrance thereto.

Eighteen officers were detailed during the year to represent the Service at various meetings of medical and public-health associations.

Two officers were directed to report to Admiral Walker, chairman of the Isthmian Canal Commission, for duty on the Isthmus of Panama, and 7 commissioned officers were assigned to duty at foreign ports in the office of the American consul.

Three medical officers were assigned to duty in the Revenue-Cutter Service, 1 each on the U. S. practice ship *Chase*, U. S. steamship *Perry*, and U. S. steamship *Manning*.

Seventeen commissioned officers were assigned to exclusive duty in examining alien immigrants, and 16 of the acting assistant surgeons above referred to were appointed for such duty.

#### EXPENDITURES.

The balance of the Marine-Hospital fund available at the commencement of the fiscal year was \$255,643.25, and the receipts from all sources—tonnage tax, repayments for care of foreign seamen, reimbursements from the Immigration Service, etc., and including an appropriation of \$200,000 provided by Congress, were \$1,158,108.96. The expenditures for the same period were \$1,183,627.23, leaving a balance on hand at the end of the fiscal year of \$230,124.98.

The amount available of the appropriation for preventing the introduction and spread of epidemic diseases at the beginning of the fiscal year was \$277,590.17. Appropriations amounting to \$200,000 were provided by Congress. The expenditures were \$146,113.48, leaving a balance June 30, 1905, of \$331,476.69.

The amount of the appropriation for the quarantine fund was \$335,000. There were repayments for the care of foreign seamen, etc., of \$1,084.16. The expenditures were \$304,978.33, leaving balance at the end of the fiscal year of \$31,105.83.

#### MARINE-HOSPITAL RELIEF.

The number of patients treated was 57,013, of whom 14,661 were treated in hospital and 42,352 were out patients. The number of days hospital relief furnished during the year was 431,623, an increase of 16,331 over the year preceding. The Service operates 21 hospitals, which are owned by the Government, and maintains 120 other relief stations where seamen receive hospital and dispensary treatment.

*Sanatorium for consumptives, Fort Stanton, N. Mex.*—During the year 385 patients were cared for at this institution, of whom 118 were discharged as follows: Sixteen apparently cured, 77 improved, and 25 unimproved. Sixty-nine patients died at the sanatorium and 198 remained under treatment at the close of the year.

## NEW HOSPITALS.

*Buffalo, N. Y.*—The drawings and specifications for the new hospital are in course of preparation in the office of the Supervising Architect.

*Pittsburg, Pa.*—The preliminary sketch plans for the new hospital are in course of preparation.

*Savannah, Ga.*—The hospital will be completed ready for occupancy about October 15, 1905, and steps will be taken with respect to its equipment. No provision has been made for laundry, stable, mortuary, or for surgeon's quarters, and an additional appropriation of \$15,000 is required. The remainder of the present appropriation should be made available for the purchase of the necessary additional land.

## PURVEYING DEPOT.

The purveying depot was, on June 1, removed from New York City to Washington, and hereafter its functions will be confined to the purchase and issue of medical and surgical supplies and hospital beds and bedding. Purveying for other services, such as the Immigration Service and the Isthmian Canal Commission, was discontinued on that date. During the year 575 requisitions were filled, and supplies furnished to the marine hospitals and quarantine stations in the United States and its dependencies. Supplies were also purchased for the Immigration Service, the vessels of the Revenue-Cutter Service, and the Coast and Geodetic Survey, and for the Isthmian Canal Commission. Provision has been made for the examination of drugs by the hygienic laboratory in order to determine the purity of those purchased for issue.

## AID TO OTHER SERVICES

Aid was extended to other branches of the Government in the matter of physical examinations, as follows:

Service.	Examined.	Rejected.
Revenue-Cutter Service.....	823	113
Steamboat-Inspection Service.....	1,278	96
Life-Saving Service.....	1,398	57
Coast and Geodetic Survey.....	92	7
Light-House Service.....	5	1
Immigration Service.....	19	1
Civil Service Commission.....	320	52
Isthmian Canal Commission.....	78	4
Total.....	3,953	301

Physical examinations were also made of 122 American seamen, of whom 15 were rejected; of 27 foreign seamen, of whom 7 were rejected, and of 5 candidates for the Philippine civil service, of whom 3 were rejected. In the Philippine Islands 893 physical examinations were made of seamen, engineers, and pilots, of whom 52 were rejected. The total physical examinations made during the year was 5,000.

## SANITARY REPORTS AND STATISTICS.

The report of the assistant surgeon-general in charge of this division gives an interesting account of the prevalence of Asiatic cholera, yellow fever, bubonic plague, smallpox, and cerebro-spinal meningitis, wherever these diseases have occurred, whether in foreign countries or in the United States and its possessions. Through this division, also, has been published the weekly public health reports and mortality statistics of the United States, with interesting comments thereon.

## MEDICAL INSPECTION OF IMMIGRANTS.

During the fiscal year 1,026,499 aliens were inspected by officers of the Service to determine their physical fitness for entry into the United States, its dependencies and possessions, as required under the immigration laws.

The details of officers at Naples, Italy; Quebec, Canada; Victoria and Vancouver, British Columbia, for the medical inspection of aliens bound for the United States were continued. The officers on duty at ports in Japan and China, in addition to their quarantine duties, also inspected aliens at the request of the Department of Commerce and Labor.

In accordance with law the medical inspection of arriving aliens has been made at all the ports of the United States where they seek entrance.

## SCIENTIFIC RESEARCH AND SANITATION.

The work of this division in making a card index of all subjects relating to sanitation, public health, and the infectious diseases has been continued, and the number of articles indexed is large.

The State boards of health have shown their appreciation of the work of the Public Health and Marine-Hospital Service by their hearty cooperation in all public health work. Questions of disputed diagnosis—especially smallpox—sanitation, sewage, and examinations of water supplies have been referred to the Bureau for settlement.

At the third annual conference of State and Territorial health officers with the Public Health and Marine-Hospital Service, held in Washington, D. C., May 15, 1905, the efficient work of the hygienic laboratory was commented upon, and a resolution was introduced urging Congress to provide for increased laboratory facilities.

At this third annual conference twenty-two States and Territories were represented, and the questions of the national control of leprosy, methods of transmission of typhoid, and railway-car sanitation were discussed.

*International Sanitary Convention of American Republics.*—The Second International Sanitary Convention of American Republics was held in Washington, October 9 to 14, 1905, twelve republics being represented by twenty delegates. A convention was signed by the delegates ad referendum to their several governments embracing the principles in the 1903 convention at Paris with regard to bubonic plague and cholera and including a special chapter relating to yellow

fever. It is thought that this convention will have a marked effect throughout the republics represented and others in the matter of quarantine and sanitation with regard to these diseases.

*Leprosy investigation in Hawaii.*—In accordance with act of Congress approved March 3, 1905, the Surgeon-General visited the leper settlement in Molokai, Hawaiian Islands, and selected the 1-mile square indicated in the said act to be ceded by the Hawaiian Government to the United States in perpetuity. The site has been surveyed, proclamation has been made by the governor ceding it to the United States, and the title to the property has been approved by the Department of Justice. Measures are being taken to carry out the other provisions of the act.

Yellow Fever Institute Bulletin No. 14 was issued during May, 1905. This work, the report of working party No. 2, detailed to investigate the etiology of yellow fever at Vera Cruz, Mexico, contains much valuable information. Hygienic Laboratory Bulletins Nos. 17, 18, 19, 20, 21, 22, and 23 were issued during the last fiscal year. All these bulletins deal with subjects of practical scientific value.

The reports of officers detailed to represent the Service at meetings of medical, surgical, and scientific societies have enabled the Bureau to obtain the opinions of sanitarians in this and other countries on subjects of importance to the Public Health and Marine-Hospital Service in its work relating to the health of the nation.

The work of Passed Assistant Surgeon King in connection with Doctor Ashford, of the Army, on the Porto Rico Anemia Commission, has attracted world-wide attention, and has resulted in great good to the inhabitants of the island of Porto Rico, both from an economic and public health point of view.

Railway-car sanitation, the sanitary housing of the poor, mosquito destruction, and the collection and identification of mosquitoes, and the investigation of "spotted" fever in Montana are among the subjects now receiving attention in the division of scientific research and sanitation.

#### HYGIENIC LABORATORY.

The work of the hygienic laboratory in the examination of anti-toxins, serums, and viruses, and in the examination of drugs for purity and strength, attracts increasing attention to the usefulness of this branch of the Public Health and Marine-Hospital Service.

The development of the laboratory during the fiscal year covered by this report marks a notable step in its history. In addition to occupying its new quarters, the corps of the laboratory was established upon the working basis provided for by act of Congress approved July 1, 1902. The hygienic laboratory as now organized is prepared to investigate the public health problems from the stand-points of pathology, bacteriology, zoology, pharmacology, and chemistry. The cooperation of scientists engaged in such special and allied lines of work is mutually helpful, and the future of the laboratory in assisting the work of the Service, as well as its prospects for advancing the sanitary sciences, is bright.

*New building.*—The usefulness of the laboratory is considerably handicapped on account of lack of space. The present building was

constructed at a cost of \$35,000, as provided for in the sundry civil bill of March 4, 1901. At that time the work of the laboratory was confined to pathology and bacteriology, and the building was not designed to accommodate the four divisions afterwards established by the act approved July 1, 1902. Attention is especially invited to the unsightly condition of the reservation, which needs terracing, grading, and planting. It would seem to be a public duty to place the laboratory grounds in a sightly condition corresponding to the naval reservation adjoining and in keeping with its position. An appropriation for an additional building was included in the Treasury Department estimates for the present fiscal year, but was not granted. The need for additional room has become acute to meet present pressing necessities.

A course of instruction to officials in the Service is given in the hygienic laboratory. The course is based on the modern notion that specialists are required in the fight against the epidemic diseases. During the past fiscal year four officers of the Service enjoyed the benefits of its instruction.

*Bulletins.*—Five bulletins have been issued during the year and others are in course of preparation. These publications deal with scientific subjects having special reference to public health matters.

*The antitoxin unit.*—The hygienic laboratory now makes and distributes the American unit by which the strength of diphtheria antitoxin is measured. The manufacture of this standard serum is surrounded by many technical difficulties. The object of this standard is to insure the strength of antidiphtheritic serum sold in the United States by licensed manufacturers. This work is done under authority of the act approved July 1, 1902. This unit has been recognized in the eighth decennial revision of the Pharmacopœia as the legal standard for this country.

*Vaccine virus.*—The director of the hygienic laboratory reports that there has been a marked improvement in the purity of vaccine virus since the administration of the act approved July 1, 1902. Once a month vaccine virus made by each one of the licensed manufacturers is purchased in open market and examined in the laboratory for potency and purity. A circular letter addressed to State and local health officers and practicing physicians has elicited replies which almost invariably agree with the laboratory results concerning the greater purity of the vaccine virus now as compared with that upon the market before the passage of the act referred to. These results are recorded in detail in another publication.

*Division of zoology.*—Spotted fever in the Bitter Root Valley of Montana was investigated, and a bulletin was issued giving results of the investigation. The reported prevalence of hook-worm disease in the United States is attracting attention. The same applies to the Dwarf tapeworm (*Hymenolepis nana*).

*Division of pharmacology.*—The following subjects were investigated in this division: The experiments with nitrites, with alcohol, and a new quinine derivative have been continued. All the drugs and chemicals purchased by the purveying depot are first examined in this division in order to determine their pharmacopœial purity and potency. Experiments on the pharmacological action of certain sulphur compounds and experiments on the functions of the thyroid



glands, the relation of carbohydrates to intoxication with acetone, and the cause of diabetes, etc., have been continued with important results.

*Division of pathology and bacteriology.*—The following subjects were investigated in this division: The manufacture of the antitoxin unit and the examination of diphtheria antitoxin for potency and purity; similar work with vaccine virus, and the standard for antitetanic serum; experiments to effect a cure for tetanus. Many disinfectants and germicides have been investigated. Special attention has been paid to important problems in car sanitation. Yellow fever and spotted fever have been studied, and many tumors and specimens sent for pathological diagnosis have been made.

*The division of chemistry* was organized June 26 by the appointment of the chief to that division. The workrooms are now being equipped and appliances furnished to carry on this part of the work.

#### NATIONAL QUARANTINE SERVICE.

The administration of national quarantine has been continued in Porto Rico, Hawaii, and the Philippines, and reference is here made to the reports of the officers in command of these national quarantine divisions in the report of the bureau division of foreign and insular quarantine.

Medical officers stationed in Cuba, viz, at Habana, Matanzas, Nuevitas, Santiago, and Cienfuegos, and also at seven fruit ports in Central and South America, have continued to exercise quarantine supervision over outgoing vessels bound for the United States and its insular possessions and dependencies. The acting assistant surgeon stationed at Nuevitas was withdrawn during the year, as there did not appear to be any apparent necessity for continuing the detail. The officer stationed at La Guaira, Venezuela, was also withdrawn for the same reason. Details at Callao, Peru, and Guayaquil, Ecuador, to inspect vessels and sign bills of health, in conjunction with the American consuls, of vessels leaving for United States ports and the ports of Panama, for the protection of the Canal Zone, were continued, as also the acting assistant surgeon at Colon.

The medical officers stationed in the offices of the American consulates at Yokohama, Nagasaki, and Kobe, Japan, and Hongkong and Shanghai, China, were continued. During the active quarantine season, beginning May 1, officers were also detailed at the American consulates at Veracruz, Progreso, and Tampico, Mexico. The medical officer stationed at Bombay, India, resigned, and the one in Calcutta still carries out the same duties as last year.

At domestic ports the inspection, detention, and disinfection, when necessary, of all vessels prior to entry has been continued at the 40 national quarantine stations upon the Atlantic, Gulf, and Pacific coasts of the United States, 5,788 vessels being inspected and 207 vessels disinfected during the fiscal year.

On request of the governor and State board of health of New Jersey, the Service, on July 19, 1904, assumed charge of the quarantine station at Perth Amboy, N. J.; and the legislature of Oregon having abolished the State quarantine service and asked the National Government to take charge, the Public Health and Marine-Hospital Service on May 20, 1905, assumed control of the quarantine service of Oregon. Both of the above actions were taken under the provisions of act approved February 15, 1893.

A proper surveillance upon the Canadian and Mexican borders has also been maintained to prevent the introduction overland of quarantinable disease.

With regard to a strictly national quarantine law for the United States, which the President advised in his last annual message to Congress, attention is invited to the resolutions passed by a conference of the governors and other representatives of the Southern States, held in Chattanooga, Tenn., November 9 and 10, 1905, and to the address before said conference made by request by the Surgeon-General of the Public Health and Marine-Hospital Service on the assigned topic "Yellow fever; its origin and prevention." (See contributed articles.) In this address some of the reasons are mentioned why all marine quarantine should be under national administration. Following are the resolutions passed by this conference:

Whereas the experience of recent years and especially the experience of this year have demonstrated beyond cavil that the house mosquito, known as the *Stegomyia fasciata*, is the sole known cause of yellow fever epidemics and have demonstrated the futility and nuisance of many antiquated methods of quarantine hitherto resorted to and the wisdom and necessity, in the interest of the public health and the public business, of uniform regulations to prevent the importation into the United States of yellow fever and its spread from State to State in the unfortunate event of its introduction: Now, therefore,

*Be it resolved*, That we, delegates from Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, Missouri, Maryland, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia, hereby respectfully request the Senate and House of Representatives in Congress assembled to enact a law whereby coast, maritime, and national frontier quarantine shall be placed exclusively under the control and jurisdiction of the United States Government, and that matters of interstate quarantine shall be placed under the control and jurisdiction of the United States Government, acting in cooperation with the several State boards of health.

We furthermore respectfully request that Congress shall make adequate appropriation to enforce and perfect the objects of this memorial and to stamp out as nearly as practicable the yellow fever-carrying mosquito in its breeding or living places in the United States and by negotiating arrangements with the Governments of Central and South America and the West India Islands, in places where the said mosquito has its breeding places or exists in said countries.

*Resolved, second*, That we urge upon the legislatures of the several Southern States that they enact quarantine regulations as nearly as possible in accord and conformity as hereafter enacted.

We furthermore urge the governors of the said several States with the above object in view specifically to call the attention of the legislatures of their respective States to the wisdom and policy of this course.

#### YELLOW FEVER.

Information was received by the Bureau of Public Health and Marine-Hospital Service, July 18, 1905, that there were rumors of the prevalence of yellow fever in the city of New Orleans, La., but as no definite information could be immediately obtained, experienced officers of the Service were immediately instructed to investigate the matter, and a few days later confirmed the presence of this epidemic disease as having existed in that city for some time.

Additional officers were dispatched to the infected center, with instructions to enforce the interstate quarantine regulations of the Treasury Department. These regulations, with the approval of the Secretary of the Treasury, were supplemented to fully meet the present scientific knowledge of yellow fever. An inspection service was

instituted upon all common carriers leaving the city by land and water.

An experienced officer was detailed to inspect the Gulf coast between Mobile and New Orleans, and a water patrol established over travel from Louisiana to the neighboring Gulf coast. Efficient aid was rendered by the United States Revenue-Cutter Service, under the immediate direction of its chief.

Upon the request of the governor of the State, the mayor of New Orleans, and others, the President directed that the Public Health and Marine-Hospital Service assume charge of the yellow-fever situation in New Orleans. Twenty commissioned officers and as many acting assistant surgeons were concentrated at that point, and with complete local cooperation the epidemic was restrained, and suppressed by November 1 and before the advent of frost.

The total number of cases officially reported in New Orleans, July 21 to November 1, inclusive, was 3,385, with 455 deaths.

The activities of the Service were also exerted, with favorable results, elsewhere in Louisiana and in several places in Mississippi, notably Vicksburg, Natchez, and Gulfport. The disease also appeared in Pensacola, Fla.

The efforts of the Service in restricting the spread of the fever to other States than Louisiana were quite successful, notwithstanding the fact that the disease appeared in other States, for it has been shown that the presence of yellow fever in the places mentioned outside of Louisiana was due to communication with the infected portion of New Orleans before the announcement of the disease in that city.

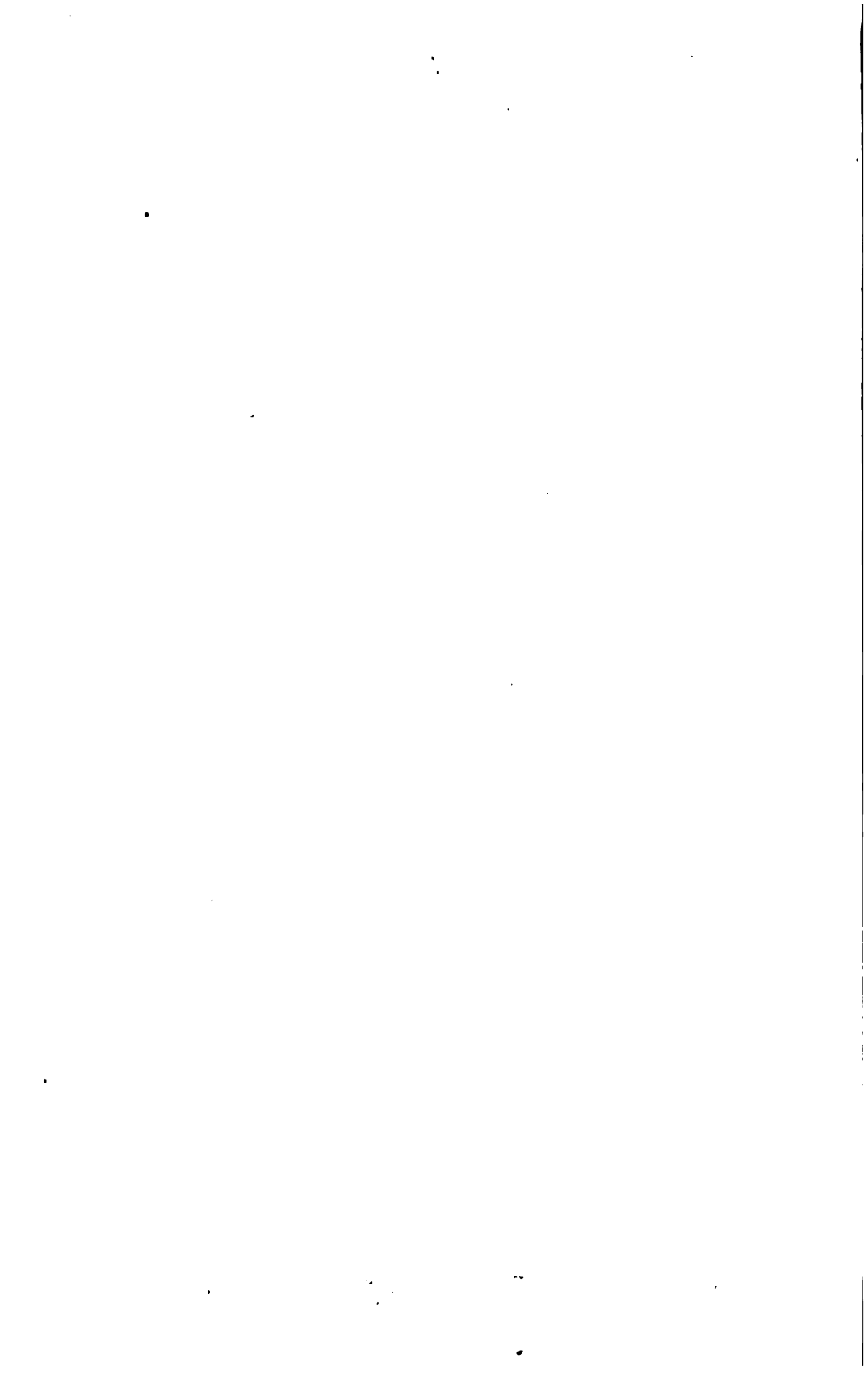
The full details of this epidemic, and reports of the officers connected with its management, will appear in the next annual report.

Attention is invited to the following reports from the several divisions of the Bureau, giving in greater detail an account of the transactions hereinbefore mentioned.

I have the honor to remain, respectfully,

WALTER WYMAN,  
*Surgeon-General.*

HON. LESLIE M. SHAW,  
*Secretary of the Treasury.*



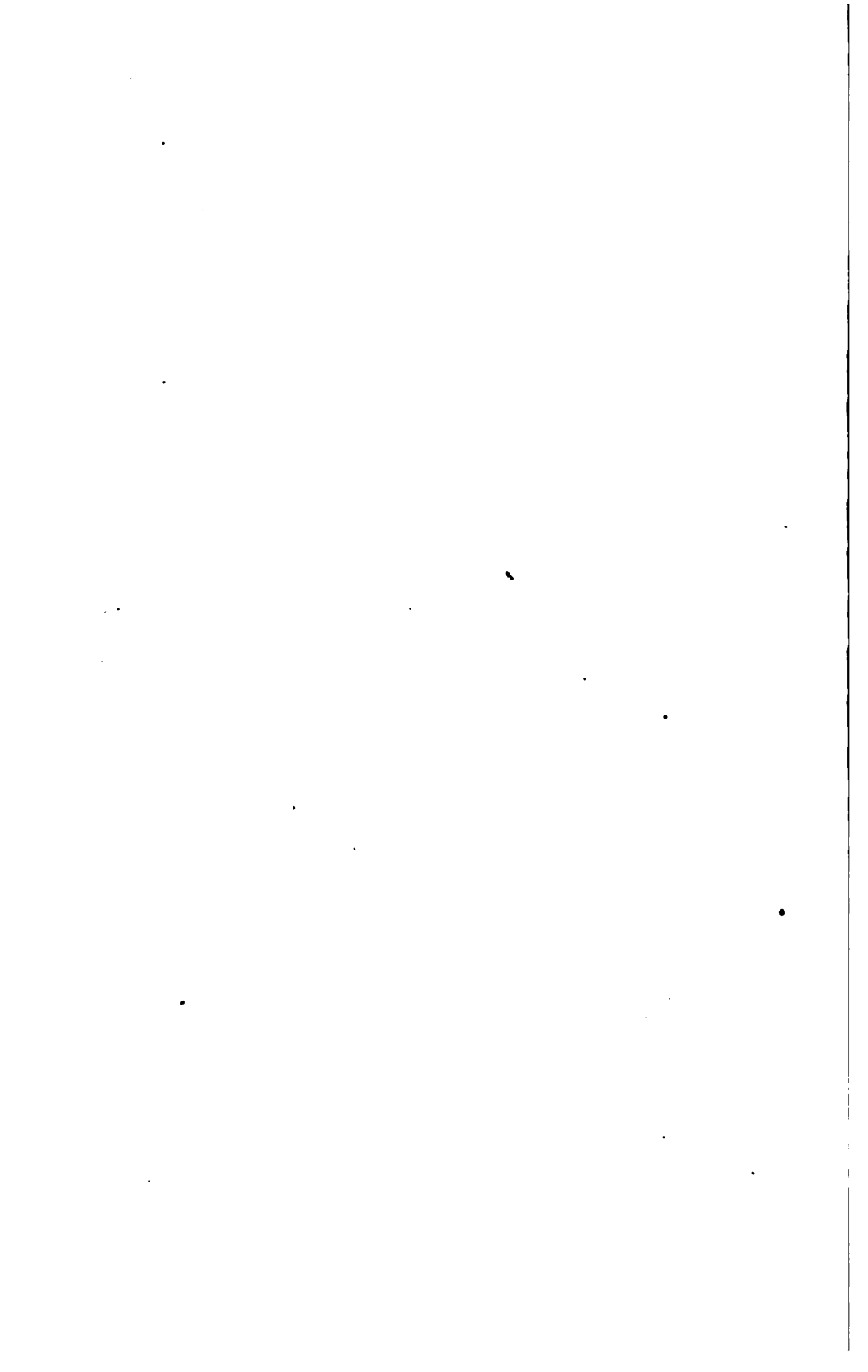
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DIVISION OF PERSONNEL AND ACCOUNTS.

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## REPORT OF THE DIVISION OF PERSONNEL AND ACCOUNTS.

By H. D. GEDDINGS,

*Assistant Surgeon-General, Public Health and Marine-Hospital Service, in temporary charge.*

SIR: I have the honor to submit the following report of the division of personnel and accounts for the fiscal year ended June 30, 1905:

### PERSONNEL.

#### COMMISSIONED OFFICERS.

At the beginning of the fiscal year, July 1, 1904, the commissioned corps, including the Surgeon-General, consisted of 118 officers, as follows: The Surgeon-General, 6 assistant surgeons-general, 25 surgeons, 36 passed assistant surgeons, and 50 assistant surgeons; total, 118.

Asst. Surg. Gen. George Purviance died October 20, 1904, and Passed Asst. Surg. A. C. Smith was promoted to the grade of surgeon.

Seventeen assistant surgeons—Dunlop Moore, H. A. Stansfield, Carroll Fox, T. B. McClintic, D. H. Currie, Joseph Goldberger, W. A. Korn, J. M. Holt, F. E. Trotter, C. W. Vogel, M. K. Gwyn, J. W. Schereschewsky, C. W. Wille, J. W. Ames, R. L. Wilson, T. D. Berry, and A. J. McLaughlin—were promoted to the grade of passed assistant surgeon.

Asst. Surg. C. E. D. Lord was removed from the Service November 15, 1904.

As a result of the examination held by a board of officers convened to meet in Washington, D. C., October 3, 1904, 6 candidates passed successful examinations and 4 were commissioned assistant surgeons in this Service.

The corps at the close of the fiscal year, June 30, 1905, consists of 120 officers, as follows: The Surgeon-General, 5 assistant surgeons-general, 26 surgeons, 52 passed assistant surgeons, and 36 assistant surgeons; total, 120.

#### CHIEFS OF DIVISION, HYGIENIC LABORATORY.

At the beginning of the fiscal year there were 2 chiefs of division on duty in the Laboratory. Dr. J. H. Kastle was appointed chief of the division of chemistry June 8 and entered upon duty June 20, 1905, leaving 3 chiefs of division on duty June 30, 1905. (Act of Congress approved July 1, 1902.)

## NONCOMMISSIONED OFFICERS.

*Sanitary inspectors.*—Two sanitary inspectors served during the entire year and 3 were appointed, leaving 5 on duty at the close of the fiscal year.

*Acting assistant surgeons.*—At the beginning of the fiscal year there were 194 acting assistant surgeons on duty, 162 were appointed, 1 died, and 165 were separated from the Service by limitation of appointments, resignations, and removals, leaving on duty at the close of the fiscal year 190 such officers.

*Medical inspectors.*—Two female medical inspectors served during the entire year for the inspection of women passengers, 1 at Honolulu, Hawaii, and 1 at San Francisco quarantine station.

*Sanitary assistants.*—Three sanitary assistants were appointed during the year for duty in Callao, Peru, and 2 were separated from the Service by resignation, leaving 1 on duty at the close of the fiscal year.

*Internes.*—At the beginning of the fiscal year there were 11 internes on duty at the various marine-hospital stations; 17 were appointed, and 15 were separated from the Service by reason of resignation, leaving 13 on duty at the close of the fiscal year.

*Pharmacists.*—At the beginning of the fiscal year there were on duty 49 pharmacists, divided as follows: Pharmacists of the first class, 16; second class, 25; third class, 8.

One pharmacist of the first class died; 1 pharmacist, second class, was removed; 1 pharmacist, second class, and 2 of the third class, resigned. Four appointments were made to the position of pharmacist, third class, which, together with promotions to fill vacancies caused by death, resignations, and removals, as above, leaves 48 pharmacists on duty at the close of the fiscal year, as follows: Pharmacists of the first class, 16; second class, 23; third class, 9.

*Pilots and marine engineers.*—At the beginning of the fiscal year there were on duty 14 pilots and 23 marine engineers. Four pilots resigned and 2 were appointed. Three marine engineers were separated from the Service and 1 was appointed. The number on duty at the close of the fiscal year is as follows: Pilots, 12; marine engineers, 21.

## HOSPITAL AND QUARANTINE ATTENDANTS.

At the beginning of the fiscal year 643 attendants were employed at the various marine hospitals, quarantine stations, and on epidemic duty, not including 60 such employees on duty in the Philippine Islands, and at the close of the fiscal year there were 670 so employed, as follows:

Branch of Service in which employed.	In Service July 1, 1904.	Appointed during year.	Separated from Service.	In Service June 30, 1905.
Marine-Hospital Service .....	421	824	839	406
Quarantine <sup>a</sup> .....	143	211	134	220
Epidemic .....	79	167	202	44
Total .....	643	1,202	1,175	670
Philippine Islands .....	60	40	33	67

<sup>a</sup> The quarantine table includes all hospital attendants employed in Porto Rico and the Territory of Hawaii.



## RECAPITULATION.

Commissioned medical officers.....	120
Chiefs of divisions, Hygienic Laboratory .....	3
Sanitary inspectors.....	5
Acting assistant surgeons.....	190
Medical inspectors.....	2
Sanitary assistants.....	1
Internes .....	13
Pharmacists .....	48
Pilots .....	12
Marine engineers.....	21
Attendants .....	670
<b>Total .....</b>	<b>1,085</b>

## BOARDS CONVENED.

Thirty-two boards were convened at different times and at various stations throughout the United States for the physical examination of officers of the Revenue-Cutter Service and applicants for entrance therein.

One board was convened for the examination of Passed Asst. Surg. A. C. Smith, to determine his fitness for promotion to the grade of surgeon.

Six boards were convened for the examination of assistant surgeons to determine their fitness for promotion to the grade of passed assistant surgeon.

One board was convened to meet at Washington, D. C., October 3, 1904, for the purpose of examining such persons as should appear before it to determine their fitness for appointment as assistant surgeons in the Service.

Three boards were convened at different stations for the examination of pharmacists to determine their fitness for promotion.

One board was convened at Fort Stanton, N. Mex., January 10, 1905, for the purpose of conducting a physical examination of a surgeon of the Service, and upon recommendation of the board said surgeon was placed on "waiting orders" January 27, 1905.

One board was convened to meet at Fortress Monroe, Va., for the purpose of making an investigation as to the cause of the damage to the launch *Spray* and to fix the responsibility therefor.

## OFFICERS DETAILED TO REPRESENT THE SERVICE AT MEETINGS OF MEDICAL AND PUBLIC-HEALTH ASSOCIATIONS.

Asst. Surg. Gen. G. T. Vaughan: Meeting of Association of Military Surgeons, at St. Louis, Mo., October 10-15, 1904.

Surg. J. M. Gassaway: Meeting of Association of Military Surgeons, at St. Louis, Mo., October 10-15, 1904.

Surg. H. R. Carter: Meeting of Pan-American Medical Congress, at Panama, January 3-6, 1905.

Surg. P. M. Carrington: Meeting of American Association for the Study and Prevention of Tuberculosis, at Washington, D. C., May 18-19, 1905.

Surg. C. P. Wertenbaker: Meeting of Association of Military Surgeons, at St. Louis, Mo., October 10-15, 1904; meeting American Public-Health Association, Habana, Cuba, January 9-13, 1905.

Surg. J. C. Perry: Meeting of Pan-American Medical Congress, at Panama, January 3-6, 1905.

Passed Asst. Surg. M. J. Rosenau: Committee on antitoxin and immunizing sera of the laboratory section of the American Public-Health Association, at New York, N. Y., October 7-8, 1904; meeting of second annual mosquito-exterminating convention, New York, N. Y., December 16-17, 1904; annual meeting of the Society of American Bacteriologists, at Philadelphia, Pa., December 27-28, 1904; meeting of American Medical Association, at Portland, Oreg., July 11-14, 1905.

Passed Asst. Surg. Rupert Blue: Convention of League of California Municipalities, at Santa Ana, Cal., November 16-18, 1904.

Passed Asst. Surg. H. S. Cumming: Meeting of American Medical Association, at Portland, Oreg., July 11-14, 1905.

Passed Asst. Surg. R. H. von Ezdorf: Meeting of Association of Military Surgeons, at St. Louis, Mo., October 10-15, 1904.

Passed Asst. Surg. John F. Anderson: Laboratory section of the American Public-Health Association, at Habana, Cuba, January 9-13, 1905.

Asst. Surg. C. C. Pierce: Meeting of Pan-American Medical Congress, at Panama, January 3-6, 1905.

Dr. Reid Hunt: Meeting of American Pharmaceutical Association, at Kansas City, Mo., September 5-10, 1904.

Pharmacist A. M. Roehrig: Meeting of American Pharmaceutical Association, Kansas City, Mo., September 5-10, 1904.

#### OTHER DETAILS.

*Isthmian Canal.*—On December 27, 1904, Passed Asst. Surg. R. H. von Ezdorf, and on July 13, 1904, Passed Asst. Surg. H. A. Stansfield were directed to report to Admiral Walker, chairman of the Isthmian Canal Commission, for duty upon the Isthmus of Panama.

*Smallpox.*—On May 17, 1905, Passed Asst. Surg. T. B. McClintic was directed to proceed to Berkeley Springs and other points in West Virginia for the purpose of assisting the State and local health officers in determining whether smallpox existed at the places visited.

On June 24, 1905, Passed Asst. Surg. Joseph Goldberger was directed to proceed to Grafton and Morgantown, W. Va., for the purpose of assisting the State health officers in determining whether smallpox existed at those places.

*Foreign duty.*—Seven commissioned medical officers were assigned to duty at foreign ports in the office of the American consul, and 9 acting assistant surgeons were appointed and similarly assigned for the purpose of preventing the introduction and spread of epidemic diseases into the United States.

*Revenue-Cutter Service.*—On May 8, 1905, Passed Asst. Surg. L. L. Lumsden was assigned to duty on the U. S. practice ship *Chase*, Passed Asst. Surg. W. C. Billings on the U. S. steamer *Perry*, and Passed Asst. Surg. D. E. Robinson on the U. S. steamer *Manning*.

*Medical inspection of aliens.*—Seventeen commissioned medical officers were assigned to exclusive duty in connection with the examination of alien immigrants, and in addition thereto 16 acting assistant surgeons were appointed for such duty.

## ACCOUNTS.

## VOUCHERS PASSED FOR PAYMENT AND SETTLEMENT.

The records of the Bureau show that 18,921 vouchers were passed during the year. Of this number, 17,418 were sent to the special disbursing agent for payment, 547 were transmitted to the Auditor for the Treasury Department for examination and settlement, and 956 were examined and referred to the Auditor, they having previously been paid by special disbursing agents of the Service.

FINANCIAL STATEMENT—RECEIPTS AND EXPENDITURES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE FOR THE FISCAL YEAR ENDED JUNE 30, 1905.

The balance of the Public Health and Marine-Hospital fund available at the commencement of the fiscal year was \$255,643.25, and the receipts from all sources, including an appropriation of \$200,000 provided by Congress, were \$1,158,108.96. The expenditures were \$1,183,627.23.

*Summary—Public Health and Marine-Hospital fund.*

Balance July 1, 1904.....	\$255, 643. 25
Amount appropriated by Congress.....	200, 000. 00
Receipts, tonnage tax.....	856, 012. 57
Repayments, care foreign seamen, medical and hospital supplies, immigration service, etc.....	102, 096. 39
Total .....	1, 413, 752. 21
Expenditures:	
Maintenance of stations.....	\$904, 425. 63
Salaries, Surgeon-General's Office.....	39, 540. 00
Fuel, lights, and water.....	80, 191. 44
Repairs to public buildings.....	33, 480. 70
Furniture and repairs.....	3, 870. 86
Heating apparatus.....	8, 405. 68
Purveying depot.....	113, 712. 92
Total .....	1, 183, 627. 23
Balance June 30, 1905.....	230, 124. 98

*Preventing the spread of epidemic diseases.*

Balance July 1, 1904.....	\$277, 590. 17
Amount appropriated by Congress.....	200, 000. 00
Total .....	477, 590. 17
Expenditures:	
Foreign medical service, salaries and miscellaneous, China, Japan, Italy, etc., Central and South America .....	\$54, 566. 98
Habana, Cuba (including outlying district), salaries, subsistence, supplies, and miscellaneous.....	24, 694. 50
Sanitary inspection in United States, salaries, traveling expenses, and miscellaneous.....	20, 927. 03
Yellow fever, maintenance of detention camps, precaution against outbreak, salaries, medical and hospital supplies, disinfectants, etc.....	16, 549. 24
Mexico, salaries, supplies, etc.....	5, 650. 42

## Expenditures—Continued.

Alaska, medical supplies, vaccine, salaries, etc., smallpox inspections.....	\$1,598.63	
Texas border inspection, salaries and miscel- laneous .....	22,126.68	
		\$146,113.48
Balance June 30, 1905.....		331,476.69

*Quarantine service, 1905.*

Amount of appropriation.....	\$335,000.00	
Repayments, care foreign seamen, etc.....	1,084.16	
Total .....		336,084.16
Expenditures .....		304,978.33
Balance June 30, 1905.....		31,105.83

*Expenditures by stations.*

Name of station.	Maintenance of stations, salaries, sub- sistence, sup- plies, and miscellane- ous.	Medical and hospi- tal sup- plies.	Total.
Reedy Island.....	\$23,962.71	\$936.66	\$24,299.37
Delaware Breakwater.....	6,450.65	949.06	8,799.70
Cape Charles.....	16,686.61	810.55	17,496.16
Cape Fear.....	7,937.70	108.51	7,496.21
South Atlantic.....	10,462.32	468.11	10,990.43
Brunswick.....	4,492.73	248.80	4,741.53
Gulf.....	18,572.69	1,940.27	19,912.96
Tampa Bay.....	7,529.99	400.28	7,929.67
San Diego.....	7,472.11	231.91	7,704.02
San Francisco.....	41,242.00	890.13	42,072.13
Port Townsend.....	16,448.77	713.78	17,167.55
Columbia River.....	14,013.16	51.02	14,044.78
Savannah.....	14,928.40	313.40	15,241.80
Key West.....	3,535.21		3,535.21
Hawaii.....	36,431.53	1,275.86	37,707.39
Cumberland Sound.....	4,704.48	11.22	4,715.70
St. Johns River.....	2,221.63		2,221.63
Biscayne Bay.....	3,840.87	7.37	3,848.24
Boca Grande.....	3,501.63	249.63	3,751.26
Cedar Keys.....	512.00		512.00
St. Georges Sound.....	3,229.00		3,229.00
Santa Rosa.....	11,279.92	652.79	11,932.71
Portland.....	7,106.99	77.77	7,184.76
Porto Rico.....	26,707.88	175.00	26,882.88
Miscellaneous.....	2,352.29	478.97	3,331.26
Total.....	295,236.65	9,711.68	304,978.33

*Appropriations, marine hospitals.*

San Francisco, Cal., act April 28, 1904:		
Amount appropriated.....		\$8,000
Balance June 30, 1905.....		8,000
Cairo, Ill., act April 28, 1904:		
Amount appropriated.....		5,000
Balance June 30, 1905.....		5,000

*Appropriations, quarantine stations.*

Reedy Island, act March 3, 1901:		
Balance July 1, 1904.....		\$867.95
Expended July 1, 1904, to June 30, 1905.....		200.00
Balance June 30, 1905.....		667.95

<b>Reedy Island, act April 28, 1904 :</b>	
Amount appropriated-----	\$8,000.00
Expended July 1, 1904, to June 30, 1905-----	5,772.59
Balance June 30, 1905-----	2,227.41
<b>Gulf, act March 3, 1899 :</b>	
Balance July 1, 1904-----	824.56
Balance June 30, 1905-----	824.56
<b>San Francisco, act June 6, 1900 :</b>	
Amount retransferred by Supervising Architect-----	94,993.75
Expended July 1, 1904, to June 30, 1905-----	\$40.08
Outstanding liabilities-----	85,145.00
	85,185.08
Balance June 30, 1905-----	9,808.67
<b>Port Townsend, act March 3, 1901 :</b>	
Balance July 1, 1904-----	39,976.30
Balance June 30, 1905-----	39,976.30
<b>Savannah, act June 6, 1900 :</b>	
Balance July 1, 1904-----	282.20
Expended July 1, 1904, to June 30, 1905-----	170.00
Balance June 30, 1905-----	112.20
<b>Savannah, act April 28, 1904 :</b>	
Amount appropriated-----	12,500.00
Balance June 30, 1905-----	12,500.00
<b>Key West, Mullet Key, act June 6, 1900 :</b>	
Balance July 1, 1904-----	41,458.38
Expended July 1, 1904, to June 30, 1905-----	\$3,153.83
Outstanding liabilities-----	4.50
	3,158.33
Balance June 30, 1905-----	38,300.05
<b>South Atlantic, act June 28, 1902 :</b>	
Balance July 1, 1904-----	3,329.60
Balance June 30, 1905-----	3,329.60
<b>South Atlantic, act June 4, 1897 :</b>	
Balance July 1, 1904-----	453.02
Balance June 30, 1905-----	453.02
<b>Mayport, Fla., act June 28, 1902 :</b>	
Balance July 1, 1904-----	1,500.00
Balance June 30, 1905-----	1,500.00
<b>Miami, Fla., act June 28, 1902 :</b>	
Balance July 1, 1904-----	228.59
Balance June 30, 1905-----	228.59
<b>Boca Grande, act June 28, 1902 :</b>	
Balance July 1, 1904-----	500.00
Balance June 30, 1905-----	500.00
<b>Pensacola, act June 28, 1902 :</b>	
Balance July 1, 1904-----	4,172.12
Expended July 1, 1904, to June 30, 1905-----	\$989.90
Outstanding liabilities-----	541.75
	1,531.65
Balance June 30, 1905-----	2,640.47

## Pensacola, act March 3, 1903:

Balance July 1, 1904	\$12,789.10
Expended July 1, 1904, to June 30, 1905	373.86

Balance June 30, 1905	12,415.24
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## San Diego, act March 3, 1903:

Balance July 1, 1904	6,000.00
Balance June 30, 1905	6,000.00

## San Diego, act June 28, 1902:

Balance July 1, 1904	18.55
Balance June 30, 1905	18.55

## Cape Charles, act March 3, 1899:

Amount retransferred by Supervising Architect	475.00
Balance June 30, 1905	475.00

## Portland, Me., act March 3, 1903:

Balance July 1, 1904	311.10
Balance June 30, 1905	311.10

## Cape Fear, act April 28, 1904:

Amount appropriated	5,300.00
Amount transferred to Supervising Architect	5,300.00

## San Juan, P. R., act April 28, 1904:

Amount appropriated	23,500.00
Amount transferred to Supervising Architect	23,500.00

## ADMINISTRATIVE DETAILS—CIRCULAR LETTERS.

## NEW CONSTRUCTION AND ALTERATIONS AT STATIONS.

TREASURY DEPARTMENT, Washington, July 27, 1904.

*To medical officers, Public Health and Marine-Hospital Service:*

Circular letter of November 13, 1903, is hereby amended to read as follows: Medical officers of the Public Health and Marine-Hospital Service acting either as custodians or commanding officers of stations, whether relief, quarantine, or other station, are hereby directed not to initiate new construction, such as buildings, sheds, reservoirs, roads, or other work of like character, cutting or closing of any opening in exterior or interior walls of buildings, or other structural changes, without previous authority therefor, even though the material may be on hand and the necessary labor may be supplied by attendants already employed.

This order is not intended to discourage improvements of stations, but to prevent their being made without the knowledge and authority of the Bureau. This does not apply to the Service in the Philippine Islands.

Acknowledgment of this circular letter is directed.

Respectfully,

WALTER WYMAN, *Surgeon-General.*

## PROMOTIONS, DISMISSALS, EXPENSES, ETC., AT STATIONS.

TREASURY DEPARTMENT, Washington, April 28, 1905.

*To commissioned medical officers and acting assistant surgeons, Public Health and Marine-Hospital Service:*

In order that the Bureau and the Department may have a clear understanding in regard to recommendations which involve promotion, reduction, increase of force or expense, or dismissal for cause, the specific cause for the action desired shall be stated clearly and concisely. In case of a recommendation for an increase in the force at a station, information should be inserted at the head of the letter in the upper left-hand corner, as follows:

## Hospital force:

Commissioned officers	-----
Noncommissioned officers	-----
Attendants, etc	-----

## Total

Number of patients in hospital	-----
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A rubber stamp for use in reporting the above information will be furnished by the Bureau at an early date.

"Number of patients in hospital" means the exact number on the date on which the letter is written.

Your attention is also called to the provisions of Department circular No. 118, of 1903, which fixes the requirements to be observed in all cases of recommendation for promotion, reduction in grade or compensation, suspension, or the acceptance of resignation of officers, clerks, or employees in and under the Treasury Department.

No recommendation will be considered unless a strict compliance with the above requirements has been observed.

You are directed to acknowledge receipt.

Respectfully,

A. H. GLENNAN,  
*Acting Surgeon-General.*

AMENDMENT TO REGULATIONS, UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE, RELATING TO THE REMOVAL OF THE PURVEYING DEPOT FROM NEW YORK TO WASHINGTON, D. C.

[1905.—Department circular No. 64.]

TREASURY DEPARTMENT,  
BUREAU OF PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
*Washington, May 20, 1905.*

*To commissioned officers, acting assistant surgeons, and others concerned:*

The following amendments to the regulations for the government of the Public Health and Marine-Hospital Service of the United States, approved August 12, 1903, are hereby promulgated and will be in force on and after this date:

Paragraph 78 is so amended that it shall read as follows:

"78. The compensation of the pharmacist detailed for duty in the purveying depot shall be at the rate of \$1,800 per annum; and at the Ellis Island immigrant station the compensation shall be at the rate of \$1,800 per annum for the senior in rank; longevity pay for pharmacists detailed under this paragraph to be calculated on the salary of a pharmacist of the first class, as fixed in paragraph 77. The additional compensation is in lieu of commutation and all other allowances."

ART. XXIX. Paragraphs 784, 786, 787, 788, 789, 790, 791, 792, 793, and 794 are abrogated.

Paragraph 785 is so amended that it shall read as follows:

"785. The purveying depot shall be deemed a station of the first class, and all regulations applying to the management of such stations, in so far as they are applicable, shall be observed in the management of the depot."

WALTER WYMAN,  
*Surgeon-General Public Health and Marine-Hospital Service.*

Approved.

H. A. TAYLOR, *Acting Secretary.*

THE WHITE HOUSE, *May 20, 1905.*

Approved.

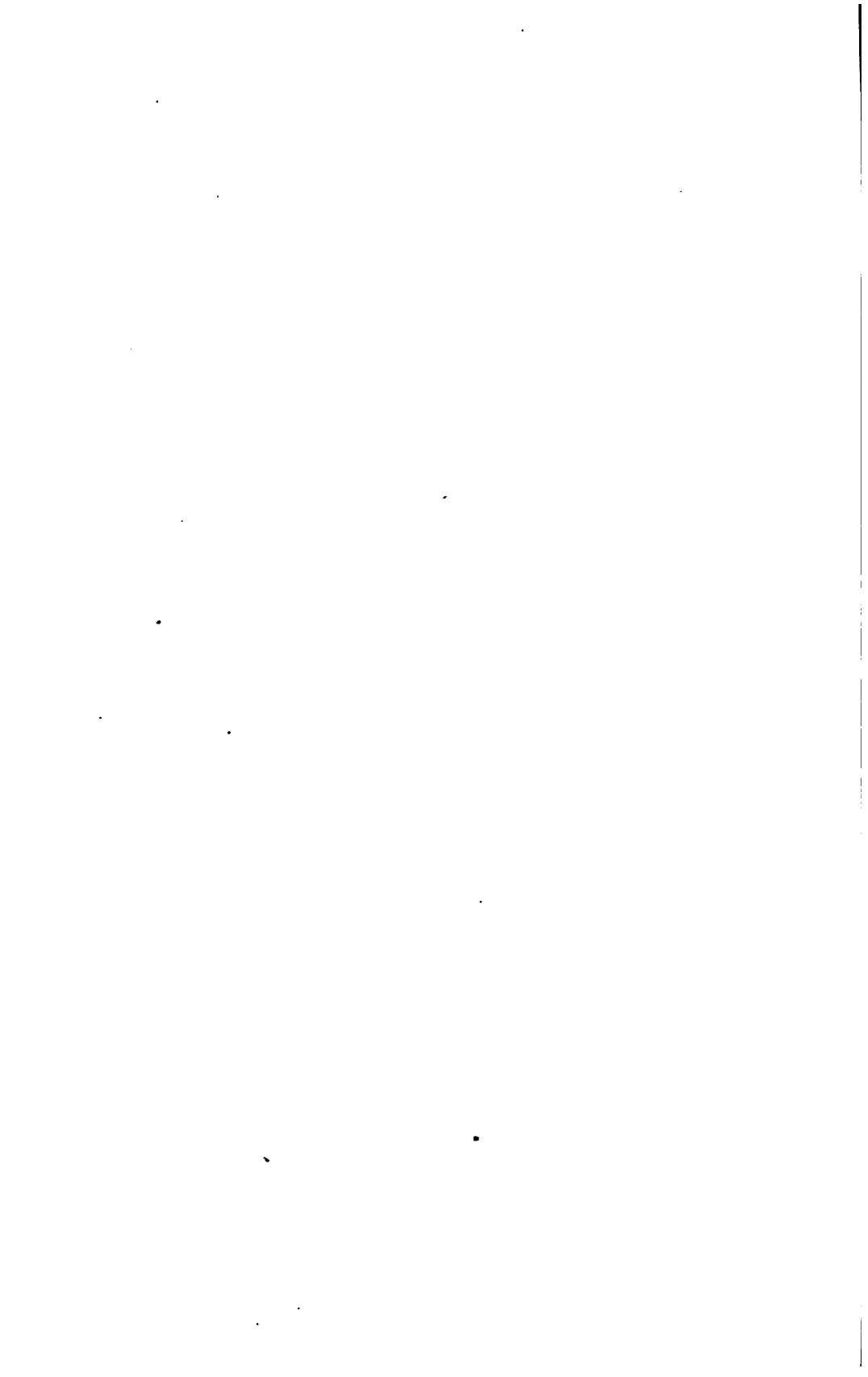
THEODORE ROOSEVELT.

With this summary of the operations of the division of personnel and accounts, I remain, respectfully,

H. D. GEDDINGS,  
*Assistant Surgeon-General in Temporary Charge.*

The SURGEON-GENERAL.

H. Doc. 320, 59-1—3





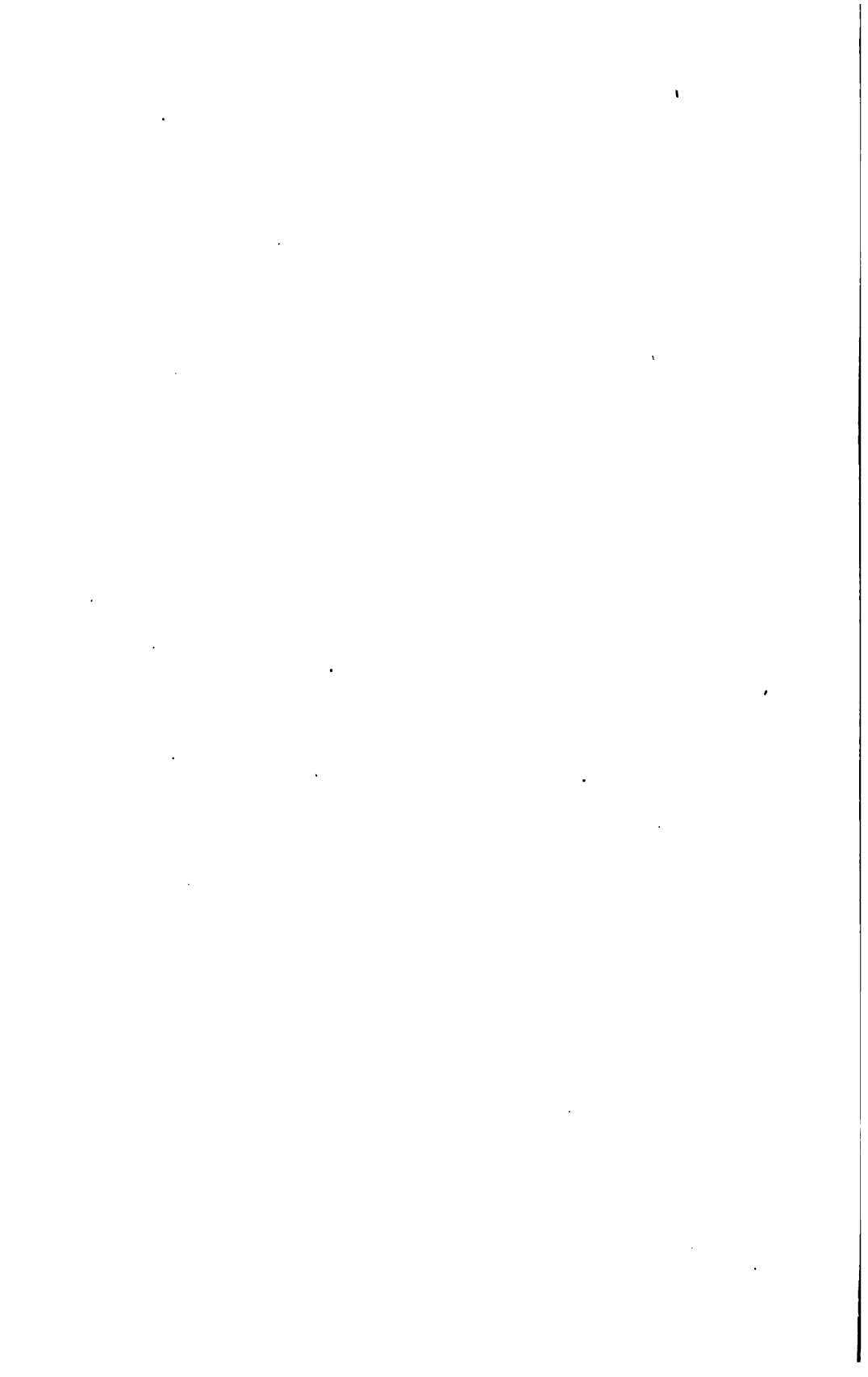
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DIVISION OF MARINE HOSPITALS AND RELIEF.

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## REPORT OF DIVISION OF MARINE HOSPITALS AND RELIEF.

By GEORGE T. VAUGHAN,

*Assistant Surgeon-General, Public Health and Marine-Hospital Service, in charge.*

SIR: I have the honor to submit the following report of the operations of the division of marine hospitals and relief for the fiscal year ended June 30, 1905:

### RELIEF OF SEAMEN.

During the year 57,013 seamen were treated at the various stations of the Service. Of these, 14,661 were treated in hospital and 42,352 were treated as out-patients. The number of days' hospital relief furnished seamen was 431,623, an excess of 16,331 over the number for the previous year.

### RELIEF STATIONS.

The Service operated 21 hospitals, all of which are owned by the Government, and maintained 120 other stations where hospital and dispensary relief were furnished.

On July 1, 1904, a new station of the third class, in charge of an acting assistant surgeon, was established at Washington, N. C., and on the same date the station at Fredericksburg, Va., was discontinued. The relief station at Burlington, Vt., was also abolished on December 17, 1904.

The marine hospital at Nome, Alaska, was closed on September 30, 1904, on account of the small number of seamen treated, and a contract made with a local hospital to care for Service patients. The services of the acting assistant surgeon at Nome were discontinued on May 31, 1905, and the station reduced to one of the fourth class.

The third-class stations at Pensacola, Fla., and Oswego, N. Y., were also on May 31, 1905, changed to stations of the fourth class and placed in charge of the collectors of customs at those ports.

### AID TO OTHER BRANCHES OF THE GOVERNMENT.

Revenue-Cutter Service: Eight hundred and twenty-three applicants for enlistment were examined, of whom 113 were rejected. Steamboat-Inspection Service: Twelve hundred and seventy-eight pilots were examined as to visual capacity, and 66 rejected. Life-Saving Service: Thirteen hundred and thirty-eight surfmen were examined, and 57 rejected. Coast and Geodetic Survey: Ninety-two employees and applicants for appointment were physically examined, and 7 rejected. Light-House Service: Five applicants for enlistment were examined, and 1 rejected. Civil Service Commission: Three hundred and twenty applicants for appointment were physically examined, and 52 rejected. Isthmian Canal Commission: Sev-

enty-eight employees were physically examined, and 4 rejected. Immigration Service: Nineteen employees were physically examined, and 1 rejected.

#### PHYSICAL EXAMINATIONS OF MERCHANT SEAMEN.

Physical examinations were made of 122 American merchant seamen, of whom 15 were rejected, and of 27 foreign seamen, of whom 7 were rejected.

#### PHYSICAL EXAMINATIONS FOR PHILIPPINE ISLANDS.

Five candidates for the Philippine civil service were examined, of whom 3 were rejected. In the Philippine Islands 893 physical examinations were made of seamen, engineers, and pilots, of whom 52 were rejected.

The total number of physical examinations made during the year was 5,000.

#### EXAMINATION OF DRUGS.

In order to determine the purity and potency of drugs purchased for issue by the purveying depot, samples of such drugs were submitted to the Hygienic Laboratory for examination and reports made thereon.

#### SANATORIUM FOR CONSUMPTIVE SEAMEN, FORT STANTON, N. MEX.

[Report of Surg. P. M. Carrington, in command.]

#### UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE, OFFICE OF MEDICAL OFFICER IN COMMAND, *Fort Stanton, N. Mex., July 25, 1905.*

SIR: I have the honor to report as follows regarding the transactions of this station for the fiscal year ended June 30, 1905:

Patients under treatment July 1, 1904.....	192
Patients admitted during the year.....	193
	<hr/> 385 <hr/>
Patients under treatment July 1, 1905.....	198
Patients discharged during the year.....	187
	<hr/> 385 <hr/>
Ages of patients treated during the year:	
Under 25 years.....	79
Between 25 and 34 years.....	120
Between 35 and 44 years.....	112
Between 45 and 54 years.....	53
Over 54 years.....	21
	<hr/> 385 <hr/>
Heredity in patients treated during the year:	
History of tuberculosis in parents.....	82
No history of tuberculosis in parents.....	303
	<hr/> 385 <hr/>

Stage of disease of patients admitted during the year (first stage meaning where no consolidation or excavation can be discovered; second stage meaning considerable involvement and consolidation without excavation; third stage, with excavation) :

First stage .....	20
Second stage .....	61
Third stage .....	111
Nontubercular .....	1

193

Area of involvement as shown by physical examination of patients admitted during the year:

Right lung only .....	13
Left lung only .....	5
Both lungs .....	174
Doubtful diagnosis of tuberculosis .....	1

193

General condition at arrival, "good" meaning well nourished and without grave complications; "bad" meaning rather poorly nourished or with complications not necessarily fatal; "very bad" meaning much emaciated or with grave complications, such as organic heart disease, chronic nephritis, or advanced laryngeal involvement:

Good .....	81
Bad .....	93
Very bad .....	19

193

Tubercle bacilli:

Were not present in the sputum of .....	21
Were present in the sputum of .....	172

193

Record of pulmonary hemorrhages of patients admitted:

Before arrival only .....	50
After arrival only .....	3
Both before and after arrival .....	9
Neither before nor after arrival .....	131

193

The greatest number of patients under treatment at one time during the year was 237.

Condition of 187 patients at time of discharge:

Apparently cured .....	16
Arrested .....	5
Improved .....	72
Unimproved .....	25
Died .....	69

187

*Duration of stay and character of cases.*

Character of case.	Longest stay.			Shortest stay.	Average stay.			
	Yrs.	Mos.	days.	Mos.	days.	Yrs.	Mos.	days.
Cured .....	3	10	12	5	10	1	2	9
Arrested .....		11	19	4	28		7	29
Improved .....	3	5	15		23		9	14
Unimproved .....	3	3	22		7		8	9
Died .....	5	8			21		8	21

I have divided the patients into classes—List A, which consists of patients who were under treatment at the beginning of the fiscal year, and List B, which consists of patients who were admitted during the year.

LIST A.—*Patients under treatment at beginning of fiscal year.*

	Cured.	Ar- rested.	Im- proved.	Unim- proved.	Died.	Total.
Cases discharged.....	13	3	43	9	37	105
First stage.....	7		5		4	16
Second stage.....	6	3	18	4	10	41
Third stage.....			20	5	23	48

Patients under treatment July 1, 1904..... 192

Patients discharged during the year..... 105

Remaining under treatment June 30, 1905..... 87

LIST B.—*Patients admitted during the year.*

	Cured.	Ar- rested.	Im- proved.	Unim- proved.	Died.	Total.
Cases discharged.....	3	2	29	16	32	82
First stage.....			6	5	1	12
Second stage.....		2	6	4	8	20
Third stage.....	3		17	7	23	50

Patients admitted during the year..... 193

Patients discharged during the year..... 82

Remaining under treatment June 30, 1905..... 111

*Complications.*

Syphilis.....	64	Inflammation of bladder.....	1
Valvular disease of heart.....	33	Lenticular cataract.....	1
Disordered action of heart.....	4	Necrosis of inferior maxilla.....	1
Rheumatism.....	21	Inflammation of epididymis.....	1
Anæmia.....	2	Local paralysis (partial).....	1
Hypertrophy of heart.....	2	Goitre.....	1
Hydrothorax.....	9	Strongylus duodenalis <sup>a</sup> .....	1
Piles.....	36	Gonorrhoea.....	7
Varicocele.....	5	Inflammation of testicle.....	2
Partial deafness.....	9	Soft chancre.....	3
Diarrhea.....	11	Carcinoma of larynx.....	1
Fistula in ano.....	4	Diabetes mellitus.....	1
Dilatation of stomach.....	1	Abscess.....	5
Hernia.....	14	Hydropneumothorax.....	1
Otitis media.....	1	Pyothorax.....	2
Myalgia.....	2	Sarcoma of brain.....	1
Inflammation of lymph glands.....	10	Sarcoma of arm.....	1
Indigestion.....	29	Ichthyosis.....	1
Curvature of spine.....	2	Vertigo.....	2
Acne.....	2	Epilepsy minor.....	1
Spasmodic asthma.....	3	Psoriasis.....	1
Bright's disease.....	10	Lardaceous degeneration of spleen.....	18
Hydrocele of tunica vaginalis.....	1	Lardaceous degeneration of liver.....	10
Inflammation of tonsils.....	1	Lardaceous degeneration of kid- neys.....	6
Diabetes insipidus.....	3	Lardaceous degeneration of intes- tines.....	3
Incontinence of urine.....	2	Inflammation of peritoneum.....	6
Varicose veins of legs.....	6	Pleurisy.....	50
Endarteritis deformans.....	20	Perforation of intestines.....	5
Eczema.....	2	Cyst of kidneys.....	1
Inflammation of joints.....	1	Fatty degeneration of liver.....	3
Stricture of urethra.....	2	Pericarditis.....	4
Hypertrophy of testicle.....	1		
Aneurism.....	1		

<sup>a</sup> Old World hookworm.

*Organs other than lungs affected.*

Lymph glands -----	1	Liver -----	2
Larynx -----	20	Pharynx -----	1
Kneejoint -----	1	Meninges -----	5
Intestines -----	26	Peritoneum -----	11
Spine -----	1	Spleen -----	1
Kidneys -----	11		

*Length of time under treatment at Sanatorium of the 187 discharged cases.*

Over two years -----	13
Between one and two years -----	38
Between six and twelve months -----	58
Between three and six months -----	37
Under three months -----	41

Total ----- 187

Of the 187 patients discharged during the year, 13 were under treatment for less than thirty days. The results in those cases were as follows:

Improved -----	2
Unimproved -----	4
Died -----	7

Total ----- 13

During the year we have had under treatment, in addition to the above, consumptive officers and employees, as follows:

Under treatment July 1, 1904 -----	9
Admitted during the year -----	12

Total ----- 21

Still under treatment June 30, 1905 -----	16
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Left during the year -----	5
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Condition of those leaving at time of discharge:

Apparently cured -----	3
Improved -----	2

Number of physical examinations made during the year ----- 1,005

## LABORATORY REPORT.

Asst. Surg. H. G. Ebert, who has had charge of the laboratory during the past fiscal year, reports the following work for the year:

Sputum examinations -----	1,483
Urine examinations -----	985
Examinations of exudates and pus -----	6
Examination of feces -----	5
Examinations of tumors -----	3
Examinations of gastric juice -----	2
Examinations of blood for plasmodium -----	1
Examinations of butter -----	1
Blood counts, white cells alone -----	1
Blood counts, white and red cells -----	9
Hemoglobin estimation (Fleishel) -----	1
Hemoglobin estimation (Dare) -----	3
Necropsies -----	66
Guinea pigs injected with sputum -----	9
Cows tested for tuberculosis (tuberculin test) -----	34

The item "Guinea pigs injected with sputum" relates to cases in which the sputum no longer shows the presence of tubercle bacilli,

and the pigs were injected with sputum in these cases in order to determine whether or not the bacilli were still present. Eight of these experiments gave a negative result, and a positive result was had in only one.

Thirty-four cows were given the tuberculin test, with a negative result in all. The balance of the dairy herd has been given the same test since July 1, with the same result. The cows tested after July 1 will be included in the report of the transactions of the next fiscal year.

Specimens are taken from all bodies brought to necropsy, sections made and microscopical examinations made, and the results thereof reported in the necropsy reports submitted elsewhere.

#### REPORT OF NOSE, THROAT, AND EAR CLINIC.

The following is a statement showing the transactions of the nose, throat, and ear clinic, which has been under the charge of Passed Asst. Surg. Joseph B. Greene:

Disease.	Cases.	Disease.	Cases.
Rhinitis:		Otitis media, chronic:	
Acute .....	6	Suppurative .....	10
Chronic .....	10	Catarrhal .....	6
Epistaxis .....	3	Cerumen in ear .....	9
Pharyngitis:		Nasal catarrh .....	24
Acute .....	19	Foreign body in eye .....	b 2
Chronic .....	15	Tinnitus aurium .....	2
Atrophic .....	2	Conjunctivitis, acute .....	3
Syphilitic .....	4	Teeth extracted .....	6
Follicular .....	1	Carcinoma of larynx .....	1
Tubercular .....	3	Iritis .....	2
Uvulitis .....	a 5	Tonsillitis, acute .....	3
Laryngitis:		Eczema of external meatus of ear .....	2
Chronic .....	1		
Tubercular .....	20		

a Two removals.

b Removals.

It will be noticed that a very large proportion of our cases require treatment by our nose, throat, and ear specialist, and it is proper to add here that all patients when admitted, and after being submitted to physical and bacteriological examinations, are referred to the officer in charge of the nose, throat, and ear clinic, who makes a careful examination, with a view to determining what the condition of these organs may be. By this means any nose, throat, and ear complications are detected immediately after the arrival of the patient, proper treatment instituted, and favorable results obtained, which might otherwise be impossible.

*Operations.*—In addition to the nose, throat, and ear work, Doctor Greene reports the following surgical operations: Operations with general anesthesia, 7; operations with local anesthesia, 13; operations with no anesthesia, 13; cases of paracentesis, tapped 22 times; total amount of fluid removed, 34,950 c. c.

Besides the cases recorded as treated in the nose, throat, and ear clinic and the above statement of operations, a number of operations too trifling for inclusion in the official table of surgical operations have been done, and a large number of patients have received treatment on account of nose, throat, and ear troubles at their quarters.



We have had a number of cases of empyema, which have received surgical treatment either by resection of the rib or by simple incision between the ribs. These cases have, with one exception, done marvelously well. Two cases in particular, which were practically moribund, immediately lost their fever, regained their appetites, and in a short time gained from 20 to 40 pounds in weight. One of them has gone away apparently well so far as the pleural complication was concerned and very much improved as to the lung condition. The other is still under treatment, and bids fair to become in time a completely recovered case.

#### DESTRUCTION OF BUILDING BY FIRE, REPAIRS TO BUILDINGS, ETC.

I have to report the loss by fire on March 18, 1905, of our hospital building, known on the chart of the station as building No. 14.

The growth of the station has rendered necessary considerable alterations and repairs to the power house, building No. 5, and contract has been entered into for certain repairs to this building, as well as for the installation of a new 35-kilowatt dynamo, additional cold-storage facilities, and other miscellaneous repairs.

During the year a large number of additional tents have been erected, the total number now occupied by consumptives being 75. It may be of interest to state that our patients are so eager to adopt tent life that we always have applications for space in tents in excess of our capacity.

#### TREATMENT, TENT LIFE, AND CONDITION OF PATIENTS.

There is nothing new in regard to treatment.

Our tents are ventilated in a number of ways. Usually both sides as well as the rear and front are well open, and even during the most severe weather one or more sides are open. In addition to this means of ventilation I have placed in all tents a window in the rear, with open spaces in the tent proper near and on each side of the ridgepole, following the idea of tent ventilation advocated by Munson of the Army. Patients living in tents so constructed are practically living out of doors during the entire twenty-four hours. Some of the patients have made flower and vegetable gardens about their tents, some have placed tent flies so as to form a veranda in front of their tents, where they sleep at night during the summer weather, and others have even planted trees in front of their tents in order to obtain shade during the summer.

Following this idea, I have had tent flies rigged up in the rear of No. 11, used as a hospital, to shelter bedridden and febrile cases; have had beds placed under such awnings, and patients live there both night and day with most favorable results.

*Condition of patients still under treatment.*—During the month of July several patients have been discharged as cured, and a number of others still under treatment are apparently cured, but, according to advice, remain in the sanatorium and on our books with the intention of staying long enough to be sure that they are cured. One of these cases, an officer in the Coast and Geodetic Survey, came to Fort Stanton two years ago with only a few inches at the base of one lung uninvolved. He is now engaged in a survey of the reservation,

spending from ten to twelve hours daily in the saddle or on field work without the slightest inconvenience and with entire satisfaction to his superiors as to the amount and character of work performed. This case, and many others of similar nature which have come under my observation during the past four and one-half years, seem to me a perfect miracle of nature, and when I contemplate these cases and review their charts and histories I can scarcely believe the evidence of my own senses. When I review the experiences of the past four and one-half years and see the wonderful cures which have been effected at this station I can not fail to disagree with those of my eminent medical brethren who claim that climatic conditions play no important rôle in the treatment of tuberculosis.

#### RECOMMENDATIONS AND CONCLUSION.

I renew the recommendation contained in my report for last year for the establishment of an industrial shop with a view to giving employment to convalescent patients, and also that an effort be made to secure the enactment of a law authorizing the sale or barter of surplus or useless products, the proceeds of such sale or barter to be applied to the needs of the sanatorium.

It is very gratifying to note the standing and influence of the Fort Stanton Sanatorium, as evidenced by the statement of the president of the United Fraternities' Sanatorium, who headed a committee which visited Fort Stanton last spring, to the effect that the record made by Fort Stanton had been their chief inspiration in the effort to establish their sanatorium in New Mexico; and also by the fact that Fort Stanton was one of the very few places visited and inspected by a committee sent out by the legislature of the State of Indiana.

Respectfully,

P. M. CARRINGTON,  
*Surgeon in Command.*

The SURGEON-GENERAL.

#### PURVEYING DEPOT.

The purveying depot was removed from New York City to Washington, D. C., on May 31, 1905. The issuing of all supplies excepting medical and surgical supplies and hospital beds and bedding from the purveying depot has been discontinued. The personnel of the purveying depot has been reduced to 1 pharmacist, 1 clerk, and 3 attendants.

During the fiscal year 575 requisitions have been filled, including, besides the stations of this Service, the Immigration Service, the Coast and Geodetic Survey, the Philippine Islands, the storekeeper of the Treasury, and the Revenue-Cutter Service. Requisitions have also been filled for the Isthmian Canal Commission, but are not included in the above number.

Medical supplies .....	\$22,303.02
Hospital stores .....	17,086.27
Surgical dressings, instruments, appliances, and hospital furniture...	12,276.77
Dry goods.....	7,655.26
Household goods, kitchen and dining-room utensils, hardware, etc....	5,180.21
Beds, bedding, and furniture.....	4,847.91
Launches, sailboats, and equipments.....	3,530.78
Microscopical, bacteriological, and optical apparatus, etc.....	3,062.85

Medical books and journals.....	\$3,056.24
Disinfecting apparatus and disinfectants.....	1,922.68
Pharmaceutical appliances, etc.....	1,769.27
Wines and liquors.....	1,377.07
Rubber goods.....	842.10
Flags.....	648.46
Vials.....	510.75
Toilet and wrapping paper.....	486.45
Purveying depot equipments.....	481.97
Carpets and matting.....	344.87
Fire apparatus and hose.....	275.00
Lumber.....	265.00
Telephone appliances.....	110.60
Paints and brushes.....	28.87
Rubber stamps and presses.....	19.10

Total cost of supplies for which orders were placed during the fiscal year.....	88,087.50
Operating expenses, including fuel, packing material, and moving.....	11,549.91
Total.....	99,637.41

## CR.

By amounts included in the above statement, authorized by special Department approval, payments being made from the several appropriations other than that of Public Health and Marine-Hospital Service:

Quarantine service.....	\$4,788.77
Immigration Service.....	1,084.89
Epidemic fund.....	168.56
Coast and Geodetic Survey.....	101.68
	6,143.90
	93,493.51

By amounts due for reimbursements for supplies issued during the year to other services:

Quarantine Service.....	8,334.01
Immigration Service.....	3,518.65
Epidemic fund.....	807.68
Coast and Geodetic Survey.....	645.49
Storekeeper, Treasury.....	78.52
Philippine government.....	9.62
Revenue-Cutter Service.....	1.10
	13,395.07

Net expenditures chargeable to Public Health and Marine-Hospital Service.....	80,098.44
Salaries.....	17,155.64
Commutation.....	550.00
Total net expense.....	97,804.08

Number of requisitions filled.....	575
Number of packages shipped.....	8,828
Total weight of supplies shipped.....	833,415

In addition to the above shipments 1,498 packages weighing 167,217 pounds were used in removing the depot from New York to Washington, making a grand total of 10,326 packages shipped, with a total weight of 1,000,632 pounds.

Respectfully submitted.

GEORGE T. VAUGHAN,  
*Assistant Surgeon-General.*

The SURGEON-GENERAL.

(NOTE.—The statistical tables, which form a part of the report of the division of marine hospitals and relief, will be found at the end of this volume.)



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DIVISION OF SANITARY REPORTS AND  
STATISTICS.

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## REPORT OF DIVISION OF SANITARY REPORTS AND STATISTICS.

By J. M. EAGER,

*Assistant Surgeon-General, Public Health and Marine-Hospital Service, in charge.*

SIR: I have the honor to submit the following report of the division of sanitary reports and statistics for the fiscal year ending June 30, 1905:

### PUBLIC HEALTH REPORTS.

Statistical reports of States and cities of the United States, published weekly, are based on the reports received from States and local health officers. Weekly reports of inspection of immigrants at the ports of the United States and its possessions are printed, as well as the weekly reports of 63 national quarantine and inspection stations and 20 State and municipal quarantine stations.

Weekly mortality tables are presented, made up of reports furnished by local health officers on blanks supplied by the Bureau. These blanks are sent to cities of 10,000 population and over and to cities of less population when especially requested by the local health officers.

The foreign and insular section of the Public Health Reports has during the period covered by this report presented many interesting communications by officers of the Public Health and Marine-Hospital Service stationed in foreign ports, of consular representatives, and others, as well as synopses of health conditions and sanitary measures abroad. Statistical reports of foreign and insular countries and cities have been prepared from reports of consular representatives and local health authorities. Weekly foreign mortality tables have also been presented regularly, having been prepared from data furnished by consuls on the consular sanitary reports sent weekly to the Bureau.

In the number of June 23, 1905, of the Public Health Reports a table was published giving the mortality statistics of 1,423 cities and towns of the United States for the year 1903, compiled from 1,423 reports received in reply to 3,750 circular letters sent to local boards of health and health officers.

A new departure from the tables for previous years was the reckoning of the mortality for the year in question according to an estimate furnished by the Bureau of the Census of the population for the year under consideration. Tables were also given, as for the previous year, based on the United States census for 1900 and on the locally estimated population for the year under consideration.

The tables for 1903, which do not include towns of under 1,000 inhabitants, cover an aggregate population of 22,400,567, according to the United States census of 1900, which gives the total population of the mainland of the United States as 75,994,575. The population covered, as estimated December 31, 1903, by the Bureau of the Census,

is 24,072,374, and as locally estimated 25,430,232. Figures from 1,423 of the 3,750 municipalities were utilized. The grand totals furnished fairly accurate annual mortality figures for the urban population of the United States for the year 1903, namely, 17.52 per mille of the United States census population for 1900; 16.12 per mille of the Census Bureau's estimated population for the year 1903, and 15.43 per mille of the locally estimated population.

The tables show a grand total of 43,269 deaths from tuberculosis in 1903. In 1892 the tables gave 41,404 deaths from this disease among a population of 22,469,816, based on the official United States census for 1900.

#### CHOLERA.

Aside from a few cases in Borneo, Ceylon, Egypt, the island of Formosa, and the Straits Settlements, mostly on board ships arriving in the ports of these countries, the principal prevalence of Asiatic cholera during the fiscal year was in India, Persia, Turkey, and the Russian Empire. The disease was also present in China, notably in Hongkong. The following are the leading reports:

Cholera was reported present August 19 at Kudat, Borneo.

At Colombo, Ceylon, between October 30 and November 12, 6 cases and 4 deaths were reported. They occurred on the British steamship *Torridge*, from Bassein for Suez.

In China there were at Hongkong 35 cases, with 32 deaths, from May 15 to July 23. This was the principal outbreak in China during the last half of the calendar year 1904; but the disease was also present at one time or another during that period at Antung, Hanoi, Shaigon, and Shanghai.

During the first six months of the calendar year 1905 the only case of cholera reported from China was a single fatal one at Tientsin in March.

At Suez, Egypt, November 4, 2 cases arrived from Java on the British steamship *Coulsdon*.

In India, the endemic home of cholera, the principal prevalence was at Calcutta and Bombay. From June 8, 1904, to May 30, 1905, 208 cholera deaths were reported at Bombay, 9 only of which were reported during the latter six months.

At Calcutta from May 22, 1904, to May 6, 1905, 1,878 deaths from cholera were reported. In the whole year only 13 cholera deaths were reported from the Madras Presidency.

There was in Persia, especially during the first month or two covered by the report, an extensive epidemic, numbering hundreds of cases daily in some of the Persian towns.

At Teheran in July, 1904, it was reported that as many as 300 deaths occurred daily. The disease, however, subsided with the advance of the season, and during the first six months of the year 1905 the only cases reported from Persia were 3 fatal ones at Teheran.

The southeastern provinces of Russia were the victims of a visitation of cholera, part of the spread of the disease that followed the initial outbreak at Mekka in 1902 and invaded Russia by way of land and sea. The extent of the prevalence has been the subject of many conflicting reports, and the danger of an advance into western Europe has given rise to much discussion.



Turkey in Asia shared with Persia the evils of the cholera epidemic. Bagdad, Amara, Ravandouz, and Van suffered severely. The Bahrein Islands, in the Persian Gulf, lost 1,500 inhabitants in May, 1904, as recorded in reports received early in the fiscal year covered by the present accounts.

## YELLOW FEVER.

## UNITED STATES.

The only reported cases of yellow fever in the United States during the fiscal year ending June 30 were on vessels in quarantine, namely, 2 cases, both fatal, at the Gulf quarantine, Ship Island, Miss., 1 fatal case at New York quarantine, and 2 at Galveston quarantine, Texas.

Place.	Date.	Cases.	Deaths.	Remarks.
Mississippi: Ship Island.....	June 3-6.....	2	2	From ss. Hiram from Puerto Cortez. Arrived at Mobile on June 3; remanded to Ship Island.
New York: New York quarantine....	June 7.....	1	1	From ss. Seguranca from Colon. Case was quarantined on Swinburne Island.
Texas: Galveston.....	Dec. 31.....	2		From ss. Horatio from Para via Barbados.

## FOREIGN AND INSULAR.

During the period covered by the report the only cases of yellow fever reported from Cuba were 3 at Santiago (Punta de Sal), between October 24 and November 26, 1904. The 6 cases with 3 deaths recorded in the tables under the head of Habana were for vessels in quarantine. Curaçao, where there was 1 fatal case of yellow fever toward the end of July, 1905, is the only other West Indian island on which yellow fever was reported present during the fiscal year.

From Mexico there were reports of yellow fever in the States of Nuevo Leon, Oaxaca, Tamaulipas, Veracruz, and Yucatan, including, among other towns, Tehuantepec, Tampico, Merida, Coatzacoalcos, Texistepec, and Veracruz.

In Central America the disease was present at Limon, Costa Rica; Colon and Panama, Republic of Panama; Puerto Cortez, Honduras; Belize, British Honduras; and Livingston, Guatemala.

In South America from Ecuador, Peru, and Columbia, on the west coast, there were reports of yellow fever. The prevalence was principally at Guayaquil, Ecuador. In July, 1904, the disease was reported present at Buenaventura, Colombia. The previous month there had been a single death from the disease at Barranquilla, Colombia. Caracas, La Guaira, and vicinity, and Maracaibo also had cases of yellow fever.

Brazil was the principal sufferer from yellow fever during the period covered by this report. From May 9, 1904, to May 28, 1905, 431 cases with 133 deaths were reported from Rio de Janeiro. At Para there were also many cases, and a few at Pernambuco.

## BUBONIC PLAGUE.

No cases of bubonic plague occurred in the United States during the fiscal year. There was 1 case in the Republic of Panama June 26. In Hawaii there were a few cases during the year. At Honolulu 6 fatal cases were reported during the fiscal year, 1 only of these occurring in the second half of the fiscal year. The last case was reported June 25, more than six months having elapsed since other cases had been reported. At Hilo there were 3 cases and 3 deaths during the fiscal year, and at Aiea and Waipahu 1 death each, the former in March, the latter in June. There were also a few cases reported in the Philippine Islands. The largest number, 43, was at Manila. Of the cases at Manila, 38 were fatal. At Cebu there were 7 cases and 4 deaths. At Cavite there was a single case, fatal, in May, 1905.

In South America the disease was present in Brazil, Chile, Peru, and Argentina, Bahia and Rio de Janeiro, in Brazil; Pisagua, in Chile, and Lima, Paita, Mollendo, Chiclayo, and other Peruvian cities being particularly affected.

In Africa the presence of the disease in Egypt and British South Africa was of the greatest commercial importance, but plague was also reported from British, German, and Portuguese East Africa. The reports from the German East Africa colonies, though received toward the beginning of the fiscal year, covered a period from January to March 1, 1904, during which time there were 47 cases and 41 deaths from plague recorded at Tringa and Old Tringa.

In Mozambique, Portuguese East Africa, the disease was reported epidemic in February, 1905, 2 cases having been previously recorded in September, 1904, at Magude. The principal outbreaks in British East Africa were at Mombassa and Port Florence.

In British South Africa the largest prevalence was at Johannesburg, Transvaal, but ended, according to reports, with the beginning of the fiscal year, there having occurred 148 cases with 96 deaths. East London, Fort Beaufort, King Williams Town, Mousa, and Port Elizabeth, all in Cape Colony, and Durban, suffered from visitations, the chief being at East London, Cape Colony, where there were 42 cases and 25 deaths recorded from December 25, 1904, to May 13, 1905.

In Egypt the disease prevailed extensively, and, owing to the locations where many of the outbreaks occurred along the principal maritime routes of the world, was a source of considerable inconvenience to commerce. Aside from the cases in the various Egyptian provinces, 69 cases and 40 deaths from the disease were reported at Alexandria and 15 cases and 12 deaths at Port Said.

In Asia, India was, as usual, the plague center, the reports received during the fiscal year giving a grand total of 1,426,429 cases and 1,203,124 deaths.

The Bombay Presidency and Sind, Punjab, Bengal, and the United Provinces furnished the greatest number of cases. China was also a sufferer from plague. Amoy, Canton, and Hongkong were among the principal places visited by epidemics.

In Japan there were a few cases. At Bangkok, Siam, from December, 1904, to May, 1905, cases were also reported.

Singapore and Sumatra, in the Straits Settlements, had a few cases.

In Arabia there are reports of a great epidemic at Aden, where more than 1,700 deaths occurred from the disease from December, 1904, to May, 1905. Plague was also present in Mekka and the Assyt Province.

In Turkey the disease was present at Aden, Smyrna, the Bahrein Islands, and Lingah, there being 125 deaths from April to June in the latter place.

Russia was the principal European sufferer from plague, the greatest number of cases occurring in the Ural territory and the Vigatka Province.

There were isolated cases at Leith, Liverpool, London, Southshields, in Great Britain, and at Cadiz, in Spain.

In Australia there were epidemics in New South Wales and Queensland, with a few cases in western Australia. In Brisbane and vicinity occurred the greatest number of cases, 49, with 18 deaths; but there were also cases at Sydney and Newcastle. Epidemics occurred in the islands of Formosa and Mauritius.

#### SMALLPOX.

Domestic and foreign smallpox tables were presented in the Public Health Reports from week to week during the fiscal year. The disease, as shown by the tables, was not strikingly epidemic anywhere in the United States, but there was a wide extension of the disease over much of the country, showing itself in scattered cases with an occasional small epidemic. In foreign countries, as shown by the tables, there was also a wide extension. The most important smallpox epidemics of the year, in South America, were those at Rio de Janeiro, Pernambuco, Nictheroy, Para, and Bahia, in Brazil; Buenos Ayres, in Argentina, and Santiago, in Chile.

In Europe there were considerable prevalences in Warsaw, Moscow, St. Petersburg, in Russia; Constantinople, in Turkey; Palermo and the Lecce Province, in Italy, and at Paris and Barcelona. In Shanghai, China; Bombay, India, and Sierra Leone, Africa, there were epidemics. Many cases were reported in Great Britain, but in Germany, where vaccination is extensively and judiciously practiced, the cases were extremely few.

#### CEREBRO-SPINAL MENINGITIS.

In order to obtain authentic material regarding the prevalence of cerebro-spinal meningitis in the United States, a circular letter, dated March 15, 1905, was addressed by the Surgeon-General, Public Health and Marine-Hospital Service, to the secretaries of State boards of health and to municipal health officers, requesting them to furnish information concerning the disease, as follows: The number of cases and deaths, by months, which occurred during the period from July 1, 1905, in the territory under their jurisdiction. These officers were requested to make weekly reports thereafter of cases and deaths from cerebro-spinal meningitis on appropriate forms furnished. The publication of the responses to this circular have since been printed in tabular form each week as received.

In the period covered by the statistics published the figures contributed by State and local health authorities show a maximum intensity in the Middle States. The States from which reports have been received form two main groups, with two isolated States. The larger group of States, all having contiguous boundaries, includes New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Delaware, Maryland, Ohio, Michigan, Indiana, Illinois, Missouri, Kansas, Nebraska, and Colorado. The second comprises Mississippi, Louisiana, and Texas, and the isolated States are North Carolina and California.

Respectfully submitted.

J. M. EAGER,

*Assistant Surgeon-General,*

*Public Health and Marine-Hospital Service, in Charge.*

To the SURGEON-GENERAL.

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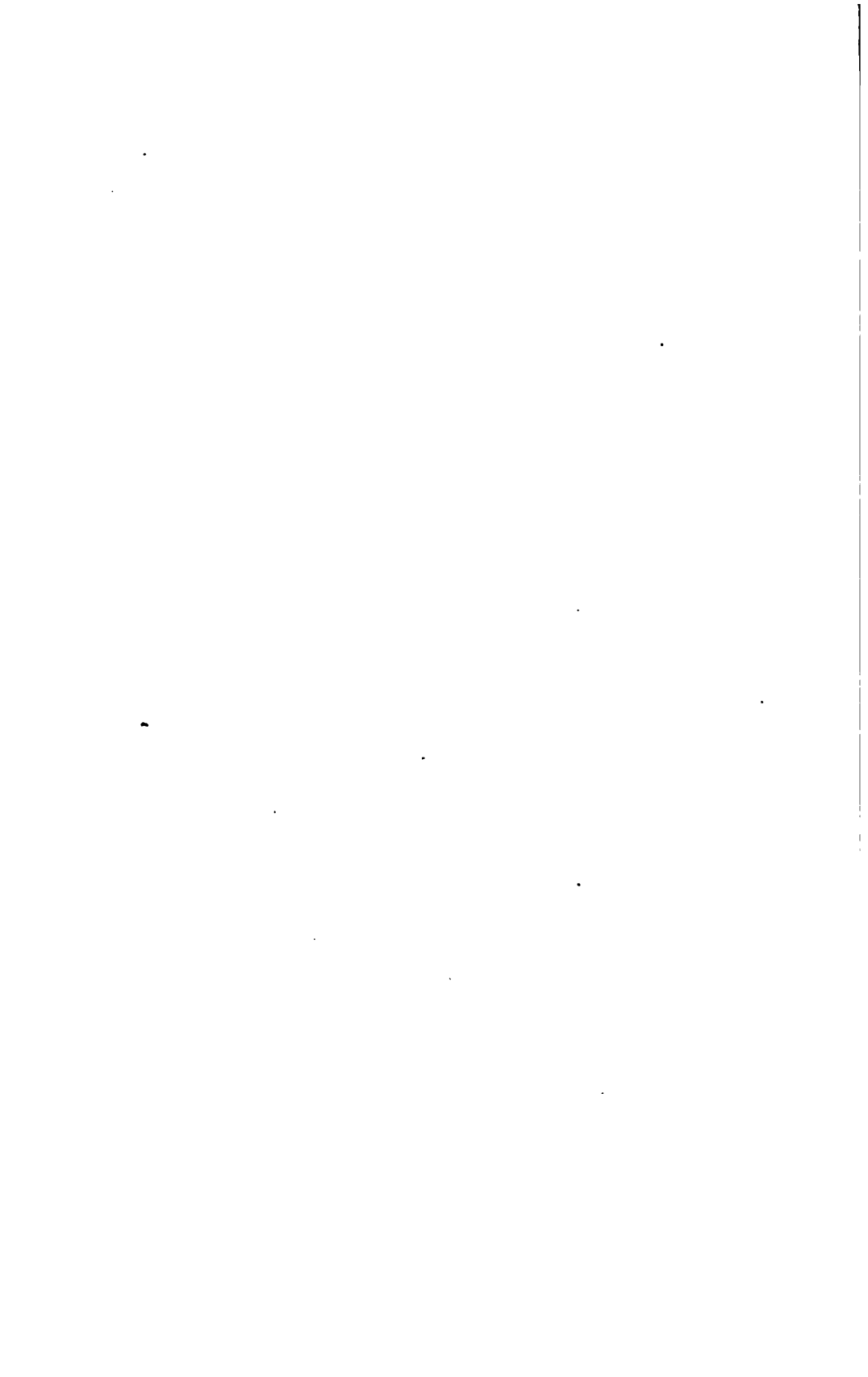
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DIVISION OF FOREIGN AND INSULAR  
QUARANTINE.

(EMBRACING MEDICAL INSPECTION OF IMMIGRANTS.)

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## REPORT OF THE DIVISION OF FOREIGN AND INSULAR QUARANTINE (EMBRACING MEDICAL INSPECTION OF IMMIGRANTS).

By W. J. PETTUS.

*Assistant Surgeon-General, Public Health and Marine-Hospital Service, in charge.*

SIR: I have the honor to submit the following report of the transactions of the division of foreign and insular quarantine and immigration for the fiscal year ended June 30, 1905:

DECISION OF THE SOLICITOR OF THE TREASURY THAT CONSULAR OFFICERS HAVE AUTHORITY TO WITHHOLD BILL OF HEALTH IF NATIONAL QUARANTINE LAWS ARE NOT COMPLIED WITH.

DEPARTMENT OF JUSTICE,  
OFFICE OF THE SOLICITOR OF THE TREASURY,  
*Washington, D. C., May 27, 1905.*

SIR: Surg. A. H. Glennan, Acting Surgeon-General, Marine-Hospital Service, desires to be informed whether, under the circumstances stated in the correspondence submitted by him to the Secretary of the Treasury, and by him referred to this Office, the master, agent, or owner of a vessel refusing to carry out the provisions of the United States quarantine laws and regulations, a consular officer would be justified in refusing a bill of health.

It appears from the correspondence that large numbers of emigrants embarking at Bremen, Germany, for this country are frequently presented for examination just prior to the sailing of the vessel, so that the proper inspection of the passengers and the necessary disinfection of the baggage is impossible.

Section 2 of the act of February 15, 1893, provides:

"That any vessel at any foreign port clearing for any port or place in the United States shall be required to obtain from the consul, vice-consul, or other consular officer of the United States at the port of departure, or from the medical officer where such officer has been detailed by the President for that purpose, a bill of health, in duplicate, in the form prescribed by the Secretary of the Treasury, setting forth the sanitary history and condition of said vessel, and that it has in all respects complied with the rules and regulations in such cases prescribed for securing the best sanitary condition of the said vessel, its cargo, passengers, and crew; and said consular officer or medical officer is required, before granting such duplicate bill of health, to be satisfied that the matters and things therein stated are true."

Paragraph 5 of the Quarantine Laws and Regulations, made pursuant to the statute, provides:

"The officer issuing the bill of health shall satisfy himself, by inspection if necessary, that the conditions certified to therein are true, and is authorized, in accordance with the law, to withhold the bill of health or the supplemental bill of health until he is satisfied that the vessel, the passengers, the crew, and the cargo have complied with all the quarantine laws and regulations of the United States."

I am satisfied that the United States consular officer of that port would not only have the power to withhold a bill of health, but under the circumstances mentioned in the correspondence it would clearly be his duty to do so.

The papers submitted are herewith returned.

Respectfully,

MAURICE D. O'CONNELL, *Solicitor.*

THE SECRETARY OF THE TREASURY.

## CORRESPONDENCE REGARDING INSTRUCTION OF CONSULS IN ISSUING BILLS OF HEALTH.

DEPARTMENT OF COMMERCE AND LABOR,  
OFFICE OF THE SECRETARY,  
Washington, April 27, 1905.

SIR: I have the honor to state that this Department is advised that there is a lack of uniformity as to the bills of health issued by consular officers, due, as has been suggested, to a difference in the construction placed upon the words "Number and sanitary condition of passengers and crew landed at this port" and "Number and sanitary condition of passengers and crew taken on at this port and sanitary condition of effects" in the bill of health.

The honorable the Acting Secretary of State, in order that consular officers may be definitely instructed, requests an expression of this Department's opinion whether consular bills of health should specify only the passengers who embark for the United States, or whether they should also include those who may embark for intermediate ports and who leave the vessel before its arrival in the United States.

This Department would be glad to have, for the use of the Bureau of Navigation, such comments or opinion regarding the matter, as the Surgeon-General Public Health and Marine-Hospital Service, may think proper to submit.

Respectfully,

V. H. METCALF, *Secretary.*

The SECRETARY OF THE TREASURY.

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TREASURY DEPARTMENT,  
OFFICE OF THE SECRETARY,  
Washington, May 6, 1905.

SIR: Referring to your letter of the 27th ultimo, regarding lack of uniformity in the bills of health issued by consular officers, due, as suggested, to a difference in construction placed upon the words "Number and sanitary condition of passengers and crew landed at this port" and "Number and sanitary condition of passengers and crew taken on at this port and sanitary condition of effects," and Department acknowledgment of receipt thereof under date of May 4, I have the honor to inform you that the Surgeon-General of the Public Health and Marine-Hospital Service states that, for the proper information of the quarantine officer at the port of arrival, the original bill of health should state the correct number of the crew, including officers, etc., also the number of cabin and steerage passengers embarking, whether through or in transit.

On the supplemental bill of health the number and sanitary condition of passengers and crew landed at the port at which the vessel touches en route should include every person landed at the port. The second statement of the number and sanitary condition of passengers and crew taken on at the port and sanitary condition of effects should also be a correct statement of all persons taken on at the port, including cabin and steerage passengers, whether through or in transit, and crew.

Unless these statements on the supplemental bill of health are correctly made it is impossible for the quarantine officer at the port of arrival to make the figures of these different statements tally, so that the correct number of persons of all kinds who should be on board can be ascertained by him.

Respectfully,

H. A. TAYLOR,  
*Acting Secretary.*

The SECRETARY OF COMMERCE AND LABOR.

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OFFICERS OF THE PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE DETAILED FOR DUTY IN THE AMERICAN CONSULATES AT PORTS OF MEXICO, CENTRAL AND SOUTH AMERICA, THE WEST INDIES, CUBA, AND PANAMA, AND IN THE CANAL ZONE.

MEXICO.

Veracruz.—Passed Asst. Surg. R. L. Wilson.

Progreso.—Acting Asst. Surg. J. F. Harrison.

Tampico.—Acting Asst. Surg. John Frick.



## PANAMA.

*Colon*.—Acting Asst. Surg. H. B. Mohr.

## CENTRAL AMERICAN FRUIT PORTS.

*Ceiba, Honduras*.—Acting Asst. Surg. W. B. Robertson.  
*Limon, Costa Rica*.—Acting Asst. Surg. D. W. Goodman.  
*Belize, British Honduras*.—Acting Asst. Surg. W. H. Carson.  
*Puerto Cortez, Honduras*.—Acting Asst. Surg. C. S. Carter.  
*Livingston, Guatemala*.—Acting Asst. Surg. R. H. Peters.  
*Bluefields, Nicaragua*.—Acting Asst. Surg. T. B. L. Layton.  
*Bocas del Toro, Panama*.—Acting Asst. Surg. Paul Osterhout.

## SOUTH AMERICA.

*Callao, Peru*.—Asst. Surg. B. J. Lloyd; Sanitary Inspector M. C. Pierola; Sanitary Asst. J. R. C. Gutierrez.  
*Guayaquil, Ecuador*.—Acting Asst. Surg. Fleetwood Gruver.  
*Rio de Janeiro, Brazil*.—Acting Asst. Surg. W. J. S. Stewart.

## CUBA.

*Habana*.—Surg. C. P. Wertenbaker; Acting Asst. Surg. J. M. Delgado.  
*Oienfuegos*.—Acting Asst. Surg. R. L. McMahon.  
*Matanzas*.—Acting Asst. Surg. E. F. Nunez.  
*Nuevitas*.—Acting Asst. Surg. E. F. McConnell.  
*Santiago*.—Acting Asst. Surg. R. Wilson.

## WEST INDIES.

*Castries, St. Lucia*.—Passed Asst. Surg. L. D. Fricks.  
*Bridgeton, Barbados*.—Asst. Surg. W. K. Ward.

## CANAL ZONE, WITH ISTHMIAN CANAL COMMISSION.

*Ancon*.—Surg. H. R. Carter; Asst. Surg. C. C. Pierce.  
*Cristobal*.—Surg. J. C. Perry.  
*Colon*.—Passed Asst. Surg. R. H. von Ezdorf; Passed Asst. Surg. H. A. Stansfield.

## CUBA.

## INSTRUCTIONS REGARDING THE ISSUANCE OF HEALTH CERTIFICATES AT HABANA, CUBA.

TREASURY DEPARTMENT,  
 BUREAU OF PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
*Washington, May 8, 1905.*

SIR: Referring to Bureau letter of March 16, 1905, authorizing you to issue certificates to passengers from other points in Cuba embarking at Habana for Mobile, New Orleans, and Galveston, upon request of the various steamship lines interested, you are informed that as long as Cuba remains free from yellow fever the Bureau does not consider the issuance of these certificates necessary, and you are therefore instructed to cease giving same.

Should yellow fever at any time break out at any of the ports of Cuba you are authorized to begin issuing these certificates as before, on request of the steamship lines interested, notifying the Bureau to that effect. A copy of this letter has been furnished to the quarantine authorities of Alabama, Louisiana, and Texas.

You are requested to acknowledge receipt of this letter.

Respectfully,

A. H. GLENNAN,  
*Acting Surgeon-General.*

Surg. C. P. WERTENBAKER,  
*Public Health and Marine-Hospital Service, Habana, Cuba.*

## SANITARY CONDITIONS IN CUBA.

The medical officers of this Service stationed at the port of Matanzas and of Santiago, Cuba, have from time to time reported the bad sanitary condition existing in these two cities and the inability of the local authorities, from lack of money, to clean up streets, cess-pools, etc.

The American consuls at these ports also made reports to the State Department of the unfavorable sanitary conditions at their posts. This matter was taken up with the Cuban Government through the State Department in a letter written by the Secretary of the Treasury to the Secretary of State on April 7, 1903.

[Correspondence.]

DEPARTMENT OF STATE, *Washington, November 11, 1904.*

SIR: I have the honor to inclose for your information a copy of a dispatch from the legation at Habana, in regard to an alleged case of yellow fever at Santiago.

The authorities at Santiago are not apparently capable to handle the matter of sanitation. Our consul was here to-day and the Assistant Secretary had a talk with him about it. He represented that the authorities were well disposed in the matter, but had not enough money to clean the streets and remove the rubbish.

I have the honor to be, sir, your obedient servant,

JOHN HAY.

The honorable the SECRETARY OF THE TREASURY.

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TREASURY DEPARTMENT,  
*Washington, November 19, 1904.*

SIR: Referring to your letter of October 31, 1904, inclosing copy of a dispatch from the American chargé d'affaires at Habana, and transmitting copy of a confidential communication, with inclosures received from the vice-consul at Matanzas, Cuba, reporting on the unfavorable sanitary conditions of that city; also to your letter of November 11, 1904, inclosing a copy of a dispatch from the legation at Habana in regard to an alleged case of yellow fever at Santiago, stating that the authorities at Santiago are not capable of handling the matter of sanitation, and that the consul at that place reported that the authorities were well disposed in the matter, but did not have enough money to clean the streets of the rubbish, I have the honor to inform you that these papers were transmitted to the Surgeon-General of the United States Public Health and Marine-Hospital Service for his information and consideration.

Your attention is invited to letter from this Department, under date of April 7, 1903, on the same subject, in which it was stated that the Surgeon-General had received a demand from the authorities of Texas, Louisiana, and Alabama for the disinfection of all vessels leaving Cuban ports for ports in the Southern States during the active quarantine season from April to November, 1903.

It was, therefore, urged that the matter be brought promptly to the sanitary authorities of Cuba in order that quarantine measures, vexatious and expensive, might not be required to be enforced by the United States authorities.

Under instructions from your Department, the American minister at Habana took up the matter with the Cuban authorities, and some efforts seem to have been made to better the insanitary state of affairs at Santiago. I am informed by the Surgeon-General that within the last few weeks two cases of yellow fever have occurred in Punta Sal, a suburb of Santiago, and that the medical officer of this Service, on duty there, in his reports agrees with those made by the American consul regarding the bad sanitary condition of the city.

I have the honor to request that a strong statement be made to the Cuban authorities, through the proper diplomatic channels, that, unless some efficient system of insuring good sanitary conditions for the cities of Matanzas and Santiago be carried out before the beginning of the active quarantine season of the coming year, it may become necessary, as stated in letter on the same subject dated April 7, 1903, quoted above, to declare quarantine against Cuban

ports. The urgent necessity for such action is very apparent when it is considered that sanitary matters in the two cities named above, according to reports both from the consular officers and the officers of the Public Health and Marine-Hospital Service, is worse than last year and the state of affairs is most serious.

Respectfully,

L. M. SHAW, *Secretary.*

The honorable the SECRETARY OF STATE.

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DEPARTMENT OF STATE,  
Washington, November 25, 1904.

SIR: I have the honor to acknowledge the receipt of your letter of the 18th instant in regard to sanitary conditions in the island of Cuba.

I have this day forwarded a copy of your letter to the minister at Habana, with instructions to point out to the Cuban Government in unmistakable terms that, unless some efficient system of insuring good sanitary conditions for the cities of Matanzas and Santiago shall be carried out before the beginning of the active quarantine season of the coming year, it may and probably will become necessary for this Government to declare quarantine against Cuban ports.

I have the honor to be, sir, your obedient servant,

JOHN HAY.

The honorable the SECRETARY OF THE TREASURY.

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HABANA.

REPORT OF SURG. C. P. WERTENBAKER.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
Habana, Cuba, July 1, 1905.

SIR: I have the honor to submit herewith a report of the transactions of this office for the fiscal year ending June 30, 1905.

Bills of health were issued during the year to 1,191 vessels, carrying 53,467 in crews, and 38,986 passengers, making a total of 92,453 persons inspected and passed.

The following changes in the personnel of the station have occurred during the year:

Acting Asst. Surg. D. M. Echemendia, who had been in charge of the station since January 26, 1904, died December 19, 1904.

Acting Asst. Surg. Jose M. Delgado, who had been acting as assistant to Doctor Echemendia, was in temporary charge until February 14, 1905, when he was relieved by Surg. C. P. Wertenbaker.

The following were on duty at this station at the close of the fiscal year: Surg. C. P. Wertenbaker, commanding; Acting Asst. Surg. Jose M. Delgado, 1 clerk and office attendant, 1 sanitary guard.

On June 13, 1905, the disinfecting steamer *Sanator*, that had been attached to this station for several years past, was transferred, with her crew, to Key West, Fla. This vessel had not been in use at this station for some time past, and had been laid up with only sufficient crew to keep her in order.

The general health of this port and the island of Cuba has been good during the year. No quarantinable disease, with the exception of leprosy, has been reported in the island. Several vessels from foreign ports have arrived at Habana during the year with yellow fever on board, and one case of this disease developed among detained passengers at quarantine.

All cases and suspects were promptly transferred to Las Animas Hospital, and proper sanitary precautions taken in each case, so there was no spread of the disease. In October, 1904, two cases of yellow fever were discovered at Punta de Sal, about 6 miles from Santiago de Cuba. The source of infection was never discovered. The cases recovered, and there was no further spread of the disease.

On April 1, 1905, in accordance with instructions from the Bureau, this office commenced the issue of certificates to passengers from points in Cuba outside of Habana embarking at Habana for Mobile, New Orleans, and Galveston, upon

the request of the steamship lines interested. The quarantine authorities of the above-mentioned places having requested the Bureau to authorize this office to issue such certificates, showing that the passenger had remained in Habana long enough to prevent his reaching the said ports within five days after arrival in Habana.

As there was no quarantinable disease in the island (always excepting leprosy), there seemed to be no adequate reason for this discrimination against the other points in Cuba. A practical trial for over a month demonstrated that the restrictions were serving no sanitary purpose, and they were detrimental to the shipping interests of Mobile, New Orleans, and Galveston. Under date of May 8, 1905, the Bureau directed this office to discontinue the issue of such certificates so long as Cuba remained free from infection. Since the receipt of those instructions no such certificates have been issued.

One hundred and twenty-five certificates of vaccination have been issued for the Canal Zone, Panama, during the year.

The relations of this office with the Cuban sanitary authorities continue to be most cordial.

This office is indebted to the United States consul-general at Habana and to the United States minister to Cuba for many courtesies, both official and personal.

The annual report of transactions at Habana, Cuba, for the year ended June 30, 1905 (outgoing quarantine), is as follows:

Steamers inspected and passed, 932; sailing vessels inspected and passed, 259; number of crew on steamers, 51,282; number of crew on sailing vessels, 2,185; number of passengers on steamers, 38,986.

VESSELS ARRIVING AT HABANA, CUBA, WITH QUARANTINABLE DISEASES ON BOARD  
DURING THE FISCAL YEAR ENDING JUNE 30, 1905.

*July 20, 1904.*—American steamship *Monterey* from Tampico arrived on July 11, 1904, with 3 passengers with high fever. They were taken the same day to Las Animas Hospital as suspicious.

*August 3, 1904.*—American steamship *Santiago* arrived from Tampico August 1, 1904, with 1 of the crew ill, who was sent to Las Animas Hospital for observation.

*August 10, 1904.*—American steamship *Niagara* arrived from Tampico August 8, 1904, had 1 of the crew with high fever. He was taken to Las Animas Hospital for observation.

*August 31, 1904.*—American steamship *Havana* arrived from Progreso August 29, 1904, with a passenger ill with high fever. He was transferred to Las Animas Hospital.

*September 27, 1904.*—American steamship *Vigilancia* arrived from Mexico September 19, 1904, with 43 nonimmune passengers which were sent to the quarantine station at Tricornia. On the 22d a high fever developed to one of them (a Norwegian) who was sent to Las Animas Hospital as suspicious of yellow fever, the diagnosis having been confirmed by the Commission of Infectious Diseases. He recovered.

*November 2, 1904.*—American steamship *Havana* arrived from Mexico October 25, 1904, with a passenger suspicious of yellow fever which was taken by the Cuban authorities to Las Animas Hospital, was found by the Commission of Infectious Diseases to be yellow fever.

*November 4, 1904.*—Spanish steamship *Buenos Aires* arrived from Tampico November 2, 1904, landed at the quarantine station of Tricornia with 1 child who was sent to Las Animas Hospital for observation. He died the same day and the commission found it to be yellow fever.

*November 9, 1904.*—American steamship *Esperanza* arrived from Mexico the 7th of November, 1904; had 1 passenger with high fever who was sent to Las Animas Hospital for observation.

*January 6, 1905.*—Austrian steamship *Dora* arrived from La Guayra and Colon January 5, 1905, with 3 cases of yellow fever, which were sent to Las Animas Hospital. One died the same evening and the other 2 the 10th.

*April 17, 1905.*—French steamship *Champagne*. One passenger was sent to Las Animas Hospital with elevated temperature April 14, 1905.

Respectfully,

C. P. WERTENBAKER,  
Surgeon.

SURGEON-GENERAL.

## REPORT OF TRANSACTIONS BY A. A. SUBG. E. F. NUNEZ.

## MATANZAS.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Matanzas, Cuba, July 10, 1905.*

SIR: I have the honor to submit a report of the transactions at this station under my charge for the fiscal year ending June 30, 1905.

On November 28, 1904, authority was requested to transfer the office of United States Public Health and Marine-Hospital Service at this port to a better location, which authority was granted as per Department approval dated January 23, 1905. In accordance with same, the office was moved to the new location on February 1, 1905, corner of Daoiz and Nicolas Heredia streets.

No change has been noticed in the conduct of the Cuban quarantine service during the year just ended.

Quarantine has been maintained without interruption in reference to yellow fever against Mexico, the Central American Republics, Colombia, and Venezuela.

No quarantinable diseases have been imported either by sea or land, neither have there been any aboard any vessel arriving at this port throughout the past year, yet precautionary detention in quarantine has been observed against all ships and personnel originating from or touching at any port infected with yellow fever, the detention being unlimited for the vessels when these had not been disinfected on leaving the last infected port by the Cuban quarantine officer. In those instances where disinfection had been done and certified to by the Cuban quarantine officer on leaving the infected port, free pratique was granted at the expiration of five days. Passengers arriving from infected ports on ships not disinfected prior to departure, were detained five days from the time of arrival on board of the disinfecting barge anchored in the harbor, before landing.

The death rate of the city of Matanzas for the fiscal year just ended was 14.70 per mille. The aggregate number of deaths from all causes was 706, as against 732 for the corresponding period in 1904, which shows a difference of 26 in favor of the city.

The official returns showed the following cases of contagious diseases and deaths within the city limits:

	Number of cases.	Number of deaths.
Measles.....	491	13
Scarlet fever.....	47	6
Enteric fever.....	48	11
Diphtheria.....	31	1
Varicella.....	2	0
Leprosy.....	2	0

Summary of the transactions during the fiscal year ended June 30, 1905: Number of bills of health issued, 244; number of crews, 6,749; number of passengers, 1,438; number of ships disinfected, 0.

Cordial relations have been maintained with the Cuban authorities throughout the past year.

Respectfully

E. F. NUNEZ,  
*Acting Assistant Surgeon.*

To the SURGEON-GENERAL.

• NUEVITAS.

REPORT BY ACTING ASST. SURG. E. E. McCONNELL.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*New York City, N. Y., September 9, 1905.*

SIR: I have the honor to inclose herewith report of the transactions of the Nuevitas national quarantine station for the fiscal year ended June 30, 1905:

The sanitary condition of the port has been fair throughout the year. No quarantinable diseases were reported in the district.

*Quarantine transactions.*—Vessels spoken and passed, 8; steamers inspected and passed, 41; sailing vessels inspected and passed, 8; crew on steamers, 2,532; crew on sailing vessels, 62; passengers on steamers, 807.

Respectfully,

E. F. McCONNELL,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

SANTIAGO.

REPORT OF ACTING ASST. SURG. RICHARD WILSON.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Santiago de Cuba, August 3, 1905.*

SIR: I have the honor to make the following report for the fiscal year 1904-5:

The work of this office has consisted principally in issuing bills of health to vessels bound for the United States and dependencies, to inspect them when in my judgment this was necessary, and to attend to sick sailors on American vessels.

In my report for the fiscal year 1903-4 I called attention to the great falling off in the number of bills of health issued over the preceding year. This year, 1904-5, I am able to report an increase of 32 over last year, making a total of 233 bills of health issued, but this is still 62 below the total for 1902-3, which was 295.

	1902-3.	1903-4.	1904-5.
Bills of health .....	295	201	233
Crews .....	11,322	7,597	8,806
Passengers .....	3,769	3,217	5,230

The smallest number of bills of health issued was 14, in August, 1904; the largest number was in April, 1905, when there were 26. Taking the totals by quarters, the numbers run pretty close for each semester, the second semester showing a decided increase. This is due to the sugar crop, which was then being shipped.

There were no vessels bound for the United States, Porto Rico, or Panama that required disinfection.

There were very few American seamen needing medical assistance. The mild cases were treated in their quarters; the severe cases were sent to the civil hospital at the vessel's expense.

On February 1, 1905, the consulate was moved to No. 22 San Basilio alta.

On January 20, 1905, the sanitary department was taken from the municipality and put under the department of public works, thus making it depend directly on the insular government.

There have been very few contagious diseases, and these have been principally diphtheria, varicella, and measles. There were reported also during the year two cases each of anthrax and beriberi and one of pellagra.

At Punta de Sal, across the bay, there was one case of yellow fever in October and another in November, 1904.

Two cases of leprosy and two "suspicious of leprosy" were reported in this city during the fiscal year. I might mention here that there is no provision for isolating and treating leprosy at this end of the island. The civil hospital has orders from the superior health authorities in Habana not to admit them, so they must remain in the community. In contrast to this, the disease appears on the Cuban bills of health among the quarantinable diseases which must be reported. Transportation companies here refuse to take lepers, so that they can not be sent to the leper asylum in Habana.

Taking the mortality statistics for the fiscal year we find the total deaths 959; this is an increase of 69 over 1903-4. The greatest increase has been in the first semester of 1905, when there were 59 deaths more than in the corresponding semester of 1904, and an increase of 83 over the second semester of 1904.

In the next two months there were six or eight suspicious cases reported, but after two or three days of observation they were discharged, another diagnosis having been made.

Punta de Sal was put in strict quarantine and disinfected. No other cases have developed.

As to the source of infection of these cases it has not been determined. The most likely explanation is that an infected mosquito was brought over in a cattle vessel from some Mexican or South American port.

The cattle steamers usually left Santiago a few hours after arriving, as soon as they unloaded the cattle. They unloaded at the wharf with the quarantine flag at the masthead. These vessels, though very dirty, were allowed to leave uncleaned, as the cleaning had to be done in the open sea; moreover they left for foreign ports. Since November, 1904, vessels coming from infected or suspicious ports have to unload the cattle in the open bay onto lighters, which are towed to the wharf.

Other vessels coming from suspicious ports were held to complete five days of observation from the day of disinfection. If they had not been disinfected at the port of departure the disinfection was done here.

The Cuban quarantine service continues to do good work in this port.

The lazaretto at Cayo Duan, which is under their care, has been very much improved during the last year, and the buildings are now in better condition than they were in American times; money was appropriated for this; but no money has been appropriated for attendants and supplies when the hospital has to be used.

Another improvement in contemplation is an immigrant station. This, of course, will be in care of the quarantine authorities. While nothing has been settled finally, it will probably be placed at Morro Castle, utilizing for it the barracks and other buildings erected by the United States Government. This is an excellent location for it.

The water supply is still insufficient. In December bids were opened to build a new aqueduct for the city, according to the plans and specifications of the department of public works. The work is progressing.

Fault has frequently been found with the quality of the water supplied at present. It is reported that typhoid fever germs have been found in it. This caused an agitation to be started in favor of a filter plant, to be established in connection with the new waterworks.

Respectfully,

RICHARD WILSON,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

[Inclosure.]

*Summary of transactions at Santiago de Cuba for the fiscal year 1904-5.*

	1904.						1905.					
	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.
Bills of health issued .....	19	14	20	18	20	17	20	18	24	28	17	20
Crews .....	637	422	975	653	823	575	778	780	1,109	850	521	680
Passengers .....	179	130	295	88	1,125	651	461	623	495	407	276	559
Deaths from other contagious diseases .....	1	1										1
Deaths from all causes (stillbirths not counted) .....	92	80	50	76	65	75	101	62	73	80	101	104
Cases of quarantinable diseases reported in city .....							1		1	1	1	
Cases of other contagious diseases reported in city .....	2	7	3	1	2	5	4	3	1	5	4	6
Certificates issued for shipping remains of dead bodies to the United States .....		1								1		

*Summary of transactions at Santiago de Cuba for the fiscal year 1904-5—Cont'd.*

	1904.		1905.		1904.	1905.	1904-5.
	Third quarter.	Fourth quarter.	First quarter.	Second quarter.	Second semester.	First semester.	Fiscal year totals.
Bills of health issued.....	53	55	62	63	108	125	233
Crews.....	2,084	2,051	2,667	2,061	4,085	4,718	8,803
Passengers.....	604	1,864	1,579	1,242	2,468	2,812	5,280
Deaths from other contagious diseases.....	2	—	—	1	2	1	3
Deaths from all causes (stillbirths not counted).....	222	216	236	235	438	521	959
Cases of quarantinable diseases reported in city.....	—	—	2	2	—	4	4
Cases of other contagious diseases reported in city.....	12	8	8	15	20	23	43
Certificates issued for shipping remains of dead bodies to the United States.....	1	—	—	1	1	1	2

## CIENFUEGOS.

REPORT BY ACTING ASST. SURG. R. L. McMAHON.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Cienfuegos, Cuba, June 30, 1905.*

SIR: I have the honor to make the following report of the transactions at this port for the fiscal year ended June 30, 1905:

*Inspection service and office transactions.*—Bills of health, 200; crews, 6,042; passengers, 551.

Quarantine has been maintained against all Mexican and Central American ports during this year.

No quarantinable disease has arrived at this port during this year and none reported in the city. There have been no transactions at this office for the Republic of Panama.

Respectfully,

R. L. McMAHON,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

## PORTO RICO.

## SAN JUAN AND SUBPORTS.

REPORT OF TRANSACTIONS BY PASSED ASST. SURG. W. W. KING.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*San Juan, P. R., July 10, 1905.*

SIR: I have the honor to make the following report of the transactions at this station and the six subports of the island of Porto Rico for the fiscal year ended June 30, 1905:

*In quarantine.*—There has been no change in the equipment of the station during the fiscal year. The same methods of procedure and regulations as those previously enforced have been continued during the past year. The Red "D" Line steamships, the Spanish Mail steamers, and all tramp vessels coming from South or Central American ports are, on arrival at this port, held in quarantine and permitted to transact business under guard. The nonimmune passengers are sent to the Miraflores Quarantine Station and kept under observation for a period of five days from the time of leaving the vessel. The Red "D" Line steamers remain in port but a few hours, and the Spanish steamers not more than twenty-four hours usually, and every effort is made to prevent small boats, except those with immune crews and having a written permit from this



office, from communication with the ships. Friends of passengers are not permitted to go alongside of the vessels to say their adieus nor are any of the passengers in transit permitted to land. During the year a few English cargo vessels have arrived from Montevideo with jerked beef aboard for this port. On account of the report of the presence of plague at that place, we put a guard aboard to ascertain if there were any signs of rats in the cargo. The vessels were also directed to anchor in the open bay and discharge in lighters. At no time did the guard discover anything to lead to the impression that rats or mice were aboard of these ships.

During the year no vessel has arrived at this or any of the subports with quarantinable disease on board. No case of yellow fever has been known on the island. Reports received in the office of the superior board of health of the island show that there were 114 cases of mild smallpox and no deaths.

*Out quarantine.*—There has been practically no outgoing quarantine, except to visé vaccination certificates for pasengers bound for Cuba.

*Personnel.*—No changes have occurred among the officers of this station during the past year.

Tabulated statements are inclosed, showing the inspection of immigrants and quarantine transactions at San Juan and the six subports.

Respectfully,

W. W. KING,

*Passed Assistant Surgeon, Chief Quarantine Officer for Porto Rico.*

The SURGEON-GENERAL.

Summary of transactions at the United States quarantine station, San Juan, P. R., during the fiscal year ended June 30, 1905: Number of vessels inspected, 269; number of vessels held in quarantine, 43; number of bills of health issued, 347; number of crew of vessels inspected, 23,577; number of passengers, local, inspected, 2,031; number of passengers, in transit, inspected, 11,874; number of passengers detained for observation, 117. No vessels were fumigated and no baggage disinfected.

#### SUBPORTS.

*Mayaguez* (Acting Asst. Surg. Rafael U. Lange Miranda in charge of station).—Number of vessels inspected, 85; number of bills of health issued, 136; number of crew of vessels inspected, 3,751; number of passengers inspected, 3,923; number of vessels held in quarantine, 1. No baggage disinfected.

*Arecibo* (Acting Asst. Surg. Manuel Martinez Rossello, in charge of station).—Number of vessels inspected, 24; number of bills of health issued, 51; number of crew of vessels inspected, 763; number of passengers inspected, 41; number of vessels held in quarantine, 6. No baggage disinfected.

*Humacao* (Acting Asst. Surg. James W. Brice in charge of station).—Number of vessels inspected, 30; number of bills of health issued, 31; number of crew of vessels inspected, 248; number of passengers inspected, 9. No vessels held in quarantine and no baggage disinfected.

*Aguadilla* (Acting Asst. Surg. Julian Benejam in charge of station).—Number of vessels inspected, 18; number of bills of health issued, 57; number of crew of vessels inspected, 900; number of passengers inspected, 173; number of vessels held in quarantine, 4. No baggage disinfected.

*Arroyo* (Acting Asst. Surg. Juan Trujillo Piza in charge of station).—Number of vessels inspected, 9; number of bills of health issued, 33; number of crew of vessels inspected, 74; number of passengers inspected, 5; number of vessels held in quarantine, 0. No baggage disinfected.

*Fajardo* (Acting Asst. Surg. Jose A. Diaz, in charge of station).—Number of vessels inspected, 62; number of bills of health issued, 54; number of crew of vessels inspected, 360; number of passengers inspected, 86; number of vessels held in quarantine, 0. No baggage disinfected.

## PONCE.

## REPORT OF TRANSACTIONS BY ACTING ASST. SURG. JULIO FERRER TORRES.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Ponce, P. R., July 1, 1905.*

SIR: I have the honor to forward the following report of the quarantine transactions at this station for the fiscal year June 30, 1905:

Vessels inspected, 163; vessels in quarantine, 43; crews inspected, 7,844; passengers for Ponce inspected, 663; passengers in transit inspected, 5,013; passengers in quarantine, 8; pieces of baggage disinfected, 54; bills of health issued, 236; vessels disinfected, 0.

During the year no vessels arrived with quarantinable disease on board. Vessels from suspicious ports of Central and South America have been held in quarantine, but were not disinfected, as they remained in port only hours transacting business under guard, and only such communication with the shore as was necessary and not considered dangerous.

Nonimmune passengers from suspicious or infected ports were detained in the barge *Argus*, and disinfected the baggage suspected of containing mosquitoes on board barge *Argus*.

Very respectfully,

JULIO FERRER TORRES,  
*Acting Assistant Surgeon.*

To the SURGEON-GENERAL.

## MEXICO.

## SEASON OF 1904.

Passed Asst. Surg. L. L. Lumsden, on duty at the United States consulate at Veracruz at the close of the fiscal year ended June 30, 1904, continued on duty until the close of the quarantine season; also Passed Asst. Surg. T. B. McClintic, in the office of the United States consul at Tampico, Mexico, after the end of the fiscal year ended June 30, 1904, until October 19, 1904, when he was relieved by Passed Asst. Surg. J. Goldberger, who remained on duty until the close of the quarantine season; Acting Asst. Surg. J. F. Harrison, on duty at Progreso, Mexico, also remained until the close of the quarantine season.

## VERACRUZ.

## REPORT OF TRANSACTIONS AT VERACRUZ, MEXICO, BY PASSED ASST. SURG. L. L. LUMSDEN.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Veracruz, Mexico, November 1, 1904.*

SIR: I have the honor to submit the following report of transactions of the Service at Veracruz, Mexico, from June 30 to November 1, 1904:

Steamers inspected, 87; steamers fumigated and certified, 23; sailing vessels inspected, 10; sailing vessels fumigated and certified, 0; crews on steamers, 3,838; crews on sailing vessels, 68; passengers on steamers, 2,253; passengers on sailing vessels, none.

Respectfully,

L. L. LUMSDEN,  
*Passed Assistant Surgeon.*

The SURGEON-GENERAL.

## TAMPICO.

REPORT BY PASSED ASST. SURG. JOS. GOLDBERGER.

TAMPICO, MEXICO, *November 1, 1904.*

SIR: I have the honor to report the following transactions at this port from July 1, 1904, to October 31, 1904.

Bills of health were issued to 112 vessels, and to 54 of these there were issued in addition certificates of fumigation.

The methods of inspection and fumigation practiced prior to July 1 were continued to the end of the quarantine season.

The personnel of the station remained unchanged until October 19, 1904, when Doctor McClintic was relieved by Passed Asst. Surg. Goldberger.

The prevailing diseases have been malaria and tuberculosis. A few deaths from smallpox were recorded, this being the only quarantinable disease reported during the period of this report. Anchylostomiasis and pneumonia add directly and indirectly to the morbidity and mortality of the port and vicinity.

Respectfully,

JOS. GOLDBERGER,  
*Passed Assistant Surgeon.*

The SURGEON-GENERAL.

## PROGRESO.

REPORT BY ACTING ASST. SURG. J. F. HARRISON.

PROGRESO, MEXICO, *October 28, 1904.*

SIR: I have the honor to present the following report of transactions at this port during the months of July, August, September, and October, 1904:

Vessels spoken and passed, none; steamers inspected, 70; sailing vessels inspected and passed, 6; steamers disinfected, 22; sailing vessels disinfected, 6; crews on steamers, 2,895; passengers on steamers, 1,469; crew on sailing vessels, 42; passengers on sailing vessels, none.

Respectfully,

J. F. HARRISON,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

## SEASON OF 1905.

Immediately before the beginning of the close quarantine season for 1905 the following-named medical officers were assigned to duty at the Mexican ports: Passed Asst. Surg. R. L. Wilson, American consulate, Veracruz; Acting Asst. Surg. John Frick, American consulate, Tampico, Acting Asst. Surg. J. F. Harrison, American consulate, Progreso.

The same arrangements as for the previous year for the fumigation at the port of departure of the vessels of the various steamship lines running between these ports and the Gulf and southern ports of the United States, were renewed under the same conditions.

The directions for fumigation of these vessels were modified on May 13, 1905, by the following cablegrams:

[Cablegrams.]

WASHINGTON, D. C., *May 13, 1905.*

Hereafter, upon request masters or agents, seal hatches and only fumigate living quarters vessels bound for Gulf ports, giving certificate.

WYMAN.

WILSON, *American Consulate, Veracruz, Mexico.*

[Similar cablegram sent to Frick, American consulate, Tampico, and Harrison, American consulate, Progreso.]

## VERACRUZ.

REPORT OF TRANSACTIONS BY PASSED ASST. SURG. R. L. WILSON. -

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
AMERICAN CONSULATE,  
Veracruz, Mexico, July 11, 1905.

SIR: I have the honor to make the following report of transactions at this station for the fiscal year ended June 30, 1905:

As the period from July 1 to November 1, 1904, was separated from the period April 1 to July 1, 1905, by an interval of the winter months of no transactions, there being no officer of our service on duty here, and, furthermore, as during this first period the station was in charge of a different medical officer, Passed Assistant Surgeon Lumsden, it has been thought best to submit the report in two divisions.

*Report of transactions for that part of the fiscal year ended June 30, 1905, from July 1 to November 1, 1904.*—Vessels inspected and bills of health issued, 106; vessels fumigated with sulphur to kill mosquitoes, 23; number of crew inspected, 4,156; number of passengers inspected, 2,342.

Inspections were made by daylight and as late as practicable before sailing of the vessel. On account of the prevalence of yellow fever at the port, temperatures were taken of all persons on board vessels bound for southern ports in the United States or the Republic of Panama. No yellow fever or other quarantinable disease occurred on board of any vessel while in port. At the request of vessels bound south of the southern boundary of Maryland supervision was made of their fumigation with sulphur to kill mosquitoes, all of the compartments of the ship being treated.

During this period there were recorded in the city of Veracruz 38 cases of yellow fever, with 2 deaths. No other quarantinable disease was reported during the time.

*That part of the fiscal year ended June 30, 1905, from April 1 and ending June 30, 1905.*—Vessels inspected and bills of health issued, 97; vessels fumigated with sulphur to kill mosquitoes, 26; number of crew inspected, 3,688; number of passengers inspected, 2,159.

Inspection and fumigation of vessels was carried on similarly to the former period, except that during the month of May, according to Bureau orders, vessels desiring to be fumigated would have the option of sealing the hatches without fumigation of the holds.

Acting Assistant Surgeon Nunez was in charge of the station during the greater part of the month of June.

During this period no quarantinable disease was reported in Veracruz, the last case of yellow fever having been reported December 29, 1904. The nearest infected place to Veracruz was Tierra Blanca, a small town 57 miles south of Veracruz, inland, where several cases of yellow fever were reported.

As mentioned previously in a weekly report, Veracruz is partly connected with underground sewers, though wash water is still run through surface drains. These drains usually have sufficient flow to prevent the breeding of mosquitoes; in fact, mosquitoes of any kind have not been abundant at any time during this period. The streets are swept in the main part of the town and garbage is hauled away. The oiling or destruction of mosquito-breeding places is practiced. The inspection of nonimmunes is said to be made daily.

For the thirteen weeks ended July 1, 1905, there were recorded in the city of Veracruz 503 deaths from all causes (annual death rate 61). Thirty-four of these deaths were ascribed to pernicious malarial fever, 18 to remittent fever, 106 to tuberculosis. The death rate appears high because many deaths are from cases of sickness that come to Veracruz from the surrounding country for treatment.

Respectfully,

The SURGEON-GENERAL.

R. L. WILSON,  
Passed Assistant Surgeon.

## TAMPICO.

## REPORT OF TRANSACTIONS BY ACTING ASSIST. SUBG. JOHN FRICK.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Tampico, Mexico, June 30, 1905.*

SIR: I have the honor to herewith submit a report of transactions at this station for the fiscal year ending to-day, June 30, 1905: Steamships inspected and passed, 53; steamships fumigated and passed, 40; bills of health issued, 93; personnel (crews) inspected, 3,113; passengers inspected, 481.

I have further to add that a comparative report of transactions at this station during the past year would show gains over that of any previous year, both in bills of health issued and vessels fumigated, a larger number of passengers as well as personnel (crews) inspected. This latter fact would indicate a larger tonnage of vessels leaving here for the States, as well as a larger number of such vessels.

I have made a very conservative estimate of the saving to vessels fumigating here, and I find it to be about \$7,500 per month, or a total of \$52,500 during the whole season. No allowance, however, is here made for coal saved in slow steaming. Vessels leaving here after fumigation have nothing to gain by fast steaming if they are likely to reach their destination prior to the expiration of the five days' quarantine requirement. So, therefore, the rule is to steam about three-fourths speed, which probably causes a saving of about 10 per cent in the consumption of coal. While I have made no particular effort that would enable me to say definitely just what this saving would probably amount to in money, I believe an estimate of \$2,500 per month would not be any too large. So, then, foreign fumigation to vessels leaving Tampico for the States means a saving of possibly \$75,000 during the quarantine season.

Respectfully,

JOHN FRICK,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

## PROGRESO.

## REPORT OF TRANSACTIONS BY ACTING ASST. SUBG. J. F. HARRISON.

Vessels spoken and passed, none; steamers inspected and passed, 56; steamers disinfected, 27; <sup>a</sup> sailing vessels inspected and passed, 5; sailing vessels disinfected, 5; <sup>a</sup> number of crew on steamers, 2,145; number of crew on sailing vessels, 35; number of passengers on steamers, 753; number of passengers on sailing vessels, none.

For the months of November and December, 1904, there are no data in this office for report, nor for the first months of the current year; and the report for July, August, September, and October of 1904 was made at the close of last quarantine season.

Respectfully,

J. F. HARRISON,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

## CENTRAL AND SOUTH AMERICA.

## FRUIT PORT INSPECTION SERVICE.

The work of inspection at the Central and South American fruit ports was discontinued at the close of the active quarantine season of 1904, and the officers recalled in accordance with the custom of previous years.

The following-named officers were detailed to these various ports for the purpose of carrying out the special quarantine regulations for

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<sup>a</sup> Fumigated to destroy mosquitoes.

fruit vessels at the beginning of the close quarantine for the present year: Acting Asst. Surg. Paul Osterhout, Bocas del Toro, Republic of Panama; Acting Asst. Surg. W. H. Carson, Belize, British Honduras; Acting Asst. Surg. R. H. Peters, Livingston, Guatemala; Acting Asst. Surg. C. S. Carter, Puerto Cortez, Honduras; Acting Asst. Surg. D. W. Goodman, Port Limon, Costa Rica; Acting Asst. Surg. W. B. Robertson, Ceiba, Honduras; Acting Asst. Surg. Thomas B. L. Layton, Bluefields, Nicaragua.

The following letter of instructions was sent to the officers of the Service stationed in the American consulates at all the fruit ports:

(LETTER OF INSTRUCTIONS.)

TREASURY DEPARTMENT,  
PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
*Washington, March 21, 1905.*

SIR: Referring to Bureau letter of February 15, 1905, approved by the Secretary and the President, detailing you for duty in the United States consulate at Port Limon, Costa Rica, under the provisions of the act of February 15, 1893, you are informed that your duties will consist in the enforcement of the United States quarantine laws and regulations for foreign ports, including the inspection of all vessels leaving your port for ports in the United States, its dependencies, or possessions, either direct or via other ports, and signing, in conjunction with the United States consular officer, the bills of health issued to same.

You will see that the special regulations for fruit vessels plying between infected or suspected fruit ports and ports of the United States, its possessions, or dependencies are carried out. A copy of Department circular No. 25, March 24, 1904, containing these regulations, is sent for your information.

By request of the Government of the Republic of Panama, you are informed that vessels leaving your port for ports in Panama should be subjected to the same restrictions by yourself as if they were bound for ports in the United States.

You will take all due precautions to prevent vessels leaving your port for ports in the United States from carrying infection of yellow fever through the agency of the stegomyia fasciata mosquito. The State Department has been requested to inform the consular officer at your port of your detail and to instruct him to transfer to you the public property left in his custody last year by your predecessor. As soon as possible after your arrival, you will transmit a list of this property, turned over to you by the consular officer, to the Bureau, for comparison with the list now on file here. The necessary blank forms for your use will be transmitted to you under separate cover; also, copy of the United States quarantine laws and regulations.

The disinfection of baggage and passengers' effects to prevent the infection of yellow fever is no longer required.

The supply of blanks transmitted to you consists of an individual certificate to be issued to each passenger about to embark on a fruit vessel bound for United States ports, and a certificate to be issued, in duplicate, to the master of the vessel as an adjunct to the bill of health and duplicate bill of health. Fruit vessels without certificates from the United States sanitary inspector stationed at their foreign port of departure shall be subject to the general quarantine regulations of the United States upon their arrival at United States ports. (See Department circular No. 25, above referred to.)

One copy of each of these certificates issued by you should be inclosed with the weekly report from your station. At the close of each week you will transmit a report of conditions and transactions at your port upon the blank inclosed.

Should yellow fever break out at your port, you will immediately cable to the Bureau particulars of the matter.

Complete records of all transactions must be kept, in order that a report of the same may be submitted to the Bureau at the close of the fiscal year ending June 30, 1905. A report of transactions also should be submitted before your departure from the station at the close of the quarantine season, including the period between July 1 of the year and that time.

Should yellow fever break out at your port, you will take the temperature of all the crew and passengers of vessels leaving for United States ports, and

should any of them show a rise in temperature, you will recommend their detention, unless a positive diagnosis that the case is not yellow fever, or any other quarantinable disease, can be made.

As soon as possible after your arrival, you should ascertain the amount of supplies on hand, so that if necessary you may make timely requisition for replenishing the same.

An immediate acknowledgement of the receipt of this letter is requested, and you will report to the Bureau the date of your arrival at your station.

Respectfully,

WALTER WYMAN,  
*Surgeon-General.*

MEDICAL OFFICERS OF THE SERVICE AT PORT LIMON, COSTA RICA, AND BOCAS DEL TORO, PANAMA, TO ISSUE PERSONAL CERTIFICATE TO PASSENGERS FOR THE CANAL ZONE.

TREASURY DEPARTMENT,  
BUREAU OF PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
*Washington, July 15, 1904.*

SIR: Referring to your personal letter under date of July 4 last, in which you state that you will request that the medical officers of this service serving at Port Limon, Costa Rica, and at Bocas del Toro, Panama, be instructed to issue personal certificates to passengers leaving those ports for ports in the Canal Zone, I have to inform you that such instructions have been issued to-day.

Respectfully,

WALTER WYMAN,  
*Surgeon-General.*

Surg. H. R. CARTER,  
*Chief Quarantine Officer for Canal Zone,  
Care Panama Canal Commission, Panama, Republic of Panama.*

#### PORT LIMON.

#### REPORT OF TRANSACTIONS BY ACTING ASST. SURG. D. W. GOODMAN.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Port Limon, Costa Rica, November 3, 1904.*

SIR: I have the honor to submit the following report of the transactions and conditions at this port for the trimester ended October 31, 1904:

Since June 30, 1904, I have inspected and given bills of health to 114 steamships, disinfected with burning sulphur in open pots the living quarters of 63, inspected and passed crews to the number of 4,274, and passengers 781, all for ports of the United States. Fifty-six bills of health for Panaman ports have been viséed, and 340 passengers for Colon, Republic of Panama, have been examined and given certificates according to special instructions.

The morbidity and mortality of this port continues great. The record shows 109 deaths from all causes for the four months, as compared to 73 for April, May, and June, or a total of 182 for the seven months, which, based on the officially estimated population of 4,000, gives 77 per thousand per annum. Fifty of these deaths may be subtracted, as of patients brought from banana farms around Limon.

Four cases and 1 death of yellow fever occurred in July, the last case being discharged cured July 26. On October 11 a case was brought into the city, but recovered without any infection resulting.

There have been fewer cases of yellow fever in Limon this quarantine season than for many years.

There has been no sanitary work done by the authorities—no war waged on mosquitoes, no means employed to prevent their propagation, and in some cases of yellow fever no proper precautions were taken to protect the patients from *Stegomyia*; hence this improvement must be due to natural causes, and of these I note: First, the unusually heavy and frequent rains all during the season. Seldom have we had forty-eight hours continuously without rain. This constantly changed the water in the barrels and tanks, and thereby interfered with the hatching and development of the young *Stegomyia*, corroborated by the fact that this mosquito has not been plentiful in certain portions of the town. Second, instead of the land breezes which have usually blown at night and in early

morning from the western portion of the town, where live most of the negroes, where less care is taken of the premises and surroundings, and where *Anopheles* and *Stegomyia* are very abundant, we have had, much of the time, a wind from the north or northeast, being from the sea or the uninhabited coast. Certainly mosquitoes of both the above genera have been rare in the eastern half of the town, where most of the nonimmunes to yellow fever reside. The negroes living in the western or mosquito zone have been very much affected with malarial fever, but are practically immune to yellow fever.

If the above be the reasons for the present freedom from yellow fever, they are at best temporary and very unreliable.

Respectfully,

D. W. GOODMAN,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

REPORT BY ACTING ASST. SURG. D. W. GOODMAN.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Port Limon, Costa Rica, June 30, 1905.*

SIR: I have the honor to submit the following report of transactions and conditions at Limon, Costa Rica, during the trimester ended June 30, 1905:

On my arrival here, March 28, I found quite an improvement in the sanitary condition of Limon over what had existed when the station was closed, November 1, 1905. At that time very few of the smaller dwellings made use of the city waterworks, but relied on the rain water caught and kept in open barrels and tanks, for both drinking and domestic purposes. There were many surface depressions of the ground in vacant lots, in yards, and under houses, which in the wet season formed pools of water. There were very few drains from back yards to street gutters, and most of the sidewalks were of earth, and hence liable to contain mudholes. By directions and personal supervision of the city health officer, these open water barrels and tanks were either destroyed and replaced by hydrants connected with the city waterworks or were covered with copper-wire netting. Surface depressions were filled, drains from back yards to street gutters constructed, and dirt sidewalks were and are still being replaced by cement ones.

The immediate result of this work, besides the great improvement in appearances of the town, is that, though the rainy season has been on for some time, the number of mosquitoes has not increased, and is markedly small.

For years past there has been no effort made to establish or enforce quarantine restrictions against ports infected with yellow fever. This year a most rigid (almost prohibitory) quarantine against Colon has been enforced, and has included Bocas del Toro, Panama, as that port allows free intercourse with Colon.

In consequence there has been no case of yellow fever in Limon since the imported one reported by me last October. I can find no record in past years where July 1 has come without finding cases of that disease in this port.

While, therefore, this port can not be regarded as infected and under the ban as in former years, the quarantine board of Mobile Bay, the Louisiana State board of health, and the Texas board of health, in convention assembled in Mobile February 24, 1905, decided to regard it as infected, and to require sulphur fumigation of fruit vessels herefrom and not to allow passengers from Limon except they first go to San José and spend the five days just preceding their departure. I have, therefore, aided in the enforcement of these local regulations.

On June 26, due to a report of the existence of one case of bubonic plague in Panama, all intercourse with Panaman ports was forbidden by orders direct from the President of Costa Rica.

The morbidity and mortality of Limon continues great, due principally to the nature and mode of living of the population. The total number of deaths for April, May, and June is 77 (about twenty-seven of these were brought from the adjacent country), which, based on the estimated population of 4,000, gives a mortality rate of 50 per 1,000 per annum. Of the 77 deaths, 19 were from malarial fever or some of its complications, 20 of infantile troubles, 9 of pneumonia, 4 of tuberculosis, and the others of various causes.

Since April 1 I have inspected 90 steamships, supervised the sulphur fumigation of the living quarters of 47, inspected and passed crews to the number of



3,441, and passengers, 1,106, all for ports of the United States or dependencies thereof.

Twenty-four bills of health for Panaman ports were viséed, as requested by the Panaman Government.

Respectfully,

The SURGEON-GENERAL.

D. W. GOODMAN,  
*Acting Assistant Surgeon.*

PUERTO CORTES.

REPORT BY ACTING ASST. SURG. C. S. CARTER, SEASON 1904.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Puerto Cortes, November 1, 1904.*

SIR: I have the honor to submit the following report of transactions occurring at this station from July 1 to November 1, 1904:

Steamers inspected, 131; sailing vessels inspected, 4; steamers disinfected, none; sail vessels disinfected, none; passengers inspected, 353; passengers vaccinated, none; crews inspected, 2,873; crews vaccinated, none; baggage inspected, 739; baggage rejected, 71.

CONDITIONS, INCREASE OF TONNAGE, SANITATION, ETC.

There are three steamship companies operating steamers out of this port for the United States during the present time, which will be increased about December 1 by one more, and probably two.

Certificates and bills of health have been issued to 135 vessels, against 118 last year. This number would have been greater except for the severe storm of October 1, causing great delay in handling fruit. It is thought that the tonnage will be increased next year to one vessel a day.

Vessels bound to the United States from this port have always been found to be in good clean condition. Quarters, closets, etc., have always been inspected, to see that they are kept clean, and plenty of disinfectants used when necessary.

The health of the port has remained good throughout the entire season, no quarantinable diseases having been reported. The prevailing diseases have been malarial fever, mostly of mild type. Some cases of remittent, and some cases of intestinal diseases, but few cases of a serious nature have occurred in port during the last four months.

There has been but little sickness of any kind among the crews of vessels bound from here to the United States.

Certificates have been issued to 209 passengers bound for the United States, and the sanitation of each has been good. The regulation governing "passengers from interior points and bringing consular certificates" has been strictly enforced, and these certificates have reported no contagious or infectious diseases in the territory from whence they have been issued. The surrounding coast territory and bay islands have all been reported healthy during the entire season. The bay islands sent a great many people to take passage for the United States. A few go to Celba, but the majority come to this port.

Certificates have been issued to 66 aliens bound for the United States or in transit through the United States. Three others were recommended for rejection.

Respectfully,

The SURGEON-GENERAL.

C. S. CARTER,  
*Acting Assistant Surgeon.*

REPORT OF TRANSACTIONS BY ACTING ASST. SURG. C. S. CARTER, SEASON OF 1905.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
*Puerto Cortes, Honduras, June 30, 1905.*

SIR: I have the honor to submit the following report of transactions occurring at this station from April 1 to June 30, 1905:

Steamers inspected, 43; sailing vessels inspected, 1; steamers disinfected, 10; sailing vessels disinfected, none; passengers inspected, 96; passengers rejected, 3; passengers vaccinated, none; crews inspected, 1,062; crews vaccinated, none; baggage inspected, 139; baggage rejected, 15; aliens inspected, 37; aliens rejected, none.

## SANITARY CONDITIONS OF PORT AND SURROUNDING COUNTRY.

Sanitary condition of the port reported good until May 25, when yellow fever was cabled to Bureau. Until this time no attempt at quarantine or sanitation had been attempted by the authorities. From the time yellow fever was announced efforts have been made to clean up the town, plenty of oil being used; and at this time the town is in fairly good condition.

Out of a population of 3,500 people the estimated number of cases and deaths from yellow fever from May 25 up to June 30 is 70 cases, with 30 deaths, including a little town across the bay—Cienagueta—but belonging to the port, which had 7 cases and 2 deaths.

At the time of making out this report yellow fever exists at San Pedro Sula, 35 miles from here on the line of the railroad. Puerto Cortes is completely isolated from there by a guard at Choloma, 15 miles, or about one-half the distance between here and San Pedro, the trains from Puerto Cortes not being allowed to pass Choloma, thereby cutting off communication from up the line except by telephone.

On May 25, when yellow fever was announced, passenger traffic was immediately stopped and passenger certificates refused to all southern points.

Vessels bound for the United States have all been found to be clean and in good sanitary condition usually. Quarters, closets, water containers, etc., have been inspected, and every effort made to keep all of the vessels in this trade in a thorough sanitary condition, plenty of disinfectants used when necessary, and the captain's attention called to any defect that there might be found of an insanitary nature.

Crews have been inspected to the number of 1,062 during the fiscal year, and there has been very little illness, and none of a quarantinable or a serious nature. So far none have had to be removed from ship from any cause whatever.

Since the 25th of May the vessels have not been allowed either to load or discharge at night at wharf, the work being done in daylight only, and the laborers being as near immune as possible, being Jamaica Negroes; and the discharging or loading is continuous until finished, except that they must go back into the stream at night. After loading, the steamer is prepared for immediate disinfection, and the temperature taken of the crew just before sailing.

## DISINFECTING OF VESSELS.

Since the breaking out of yellow fever at this port all fruit vessels leaving this port have been disinfected by the medical officers aboard ship, the disinfection being done with sulphur (2 pounds to the 1,000 cubic feet).

Since the breaking out of yellow fever at this port, oiling and cleaning gangs have been put to work and all efforts have been directed to the prevention of and the destruction of mosquitoes. This has never been tried before, but it has had its effect, and the mosquitoes are not so numerous as before, and the port presents a much cleaner appearance.

Respectfully,

C. S. CARTER,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

NOTE.—For history of outbreak of yellow fever at Puerto Cortes, by Acting Assistant Surgeon Carter, see Public Health Reports of June 30, 1905, p. 1350.

## LIVINGSTON.

REPORT BY ACTING ASST. SURG. R. H. PETERS, SEASON OF 1904.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Livingston, Guatemala, November 2, 1904.*

SIR: I have the honor to submit report of the transactions at this station covering the period from July 1 to October 31, 1904, the date of closing this station.

From July 1 to October 31, 40 vessels were inspected and cleared from Livingston and Puerto Barrios, Guatemala, for ports in the United States; 1,135 crew were inspected; 65 passengers given certificates, of which number 17 were aliens. Of the 40 vessels, 20 cleared from Puerto Barrios and 20 from

Livingston. Their destinations in United States were New Orleans, 28; Mobile, 9; Boston, 1; New York, 2. I have regularly visited Puerto Barrios to inspect vessels and issue certificates to passengers.

Livingston and Puerto Barrios have been free from all quarantinable diseases during the season just closed.

Respectfully,

R. H. PETERS,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

REPORT OF TRANSACTIONS BY ACTING ASST. SURG. R. H. PETERS, SEASON 1905.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Livingston, Guatemala, July 6, 1905.*

SIR: I have the honor to submit the following report:

The station was opened April 1, 1905, from which date work commenced, and I have regularly visited the port of Puerto Barrios, Guatemala, for the purpose of inspecting vessels and issuing certificates to passengers leaving said port for ports in the United States.

Since the opening of the station 36 vessels have been inspected and given bills of health, 1,058 members of crews were inspected, and 139 passengers given certificates. Of the passengers 53 were aliens.

On June 7 the first case of yellow fever in Livingston came under observation, but the patient had been sick from the 4th, which would put the time of infection about the 1st of June. From June 4 to June 30 there were a total of 12 cases, of which number 5 died. The first cases were of a severe form, as out of the first 6 cases only 2 recovered, but the later cases were of a milder type, as there was only 1 death.

I have been unable to trace the source of infection.

The climatic conditions this year were favorable for the development of the disease, as during the months of April, May, and June it was unusually hot and dry and there was very little rain. It was only during the last week of June that the weather changed and the sea breezes with heavy rains commenced, since which date the fever has abated. No new cases at present under observation. Livingston is the only infected point on the Guatemala coast, so far as I have been able to learn. Puerto Barrios and Santo Tomas so far remain free from infection.

Respectfully,

R. H. PETERS,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

BOCAS DEL TORO.

REPORT BY ACTING ASST. SURG. PAUL OSTERHOUT, SEASON 1904.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Bocas del Toro, Panama, November 2, 1904.*

SIR: I have the honor to submit the following report of the transactions at this station for the period July 1, 1904, to November 2, 1904, inclusive, when the Service was discontinued: Number of vessels inspected, 69; number of persons inspected, 2,523; number of pieces of baggage inspected, 146.

No infectious or contagious diseases have appeared in this port this year.

Respectfully,

PAUL OSTERHOUT,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

REPORT BY ACTING ASST. SURG. PAUL OSTERHOUT, SEASON 1905.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Bocas del Toro, Panama, July 3, 1905.*

SIR: I have the honor to submit the following report of the transactions at this port for the period April 1, 1905, to June 30, 1905, inclusive:

The quarantine service was commenced on April 1, 1905. The public property of the Service was received from the United States consular agent, and all persons interested in shipping were handed a copy of Department circular No. 25, dated March 24, 1905. No infectious or contagious diseases have appeared in this port since the smallpox epidemic of 1903. The health of this port has been remarkably good during the past year. There is free and uninterrupted communication with Colon and Panama, and no steps have been taken by the local authorities to prevent the introduction of known infections from the above-named places.

The following transactions have occurred: Vessels inspected, 52; pieces of baggage inspected, 115; ships' crews inspected, 1,468; passengers inspected, 278.

Respectfully,

PAUL OSTERHOUT,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

CEIBA.

REPORT BY ACTING ASST. SURG. W. B. ROBERTSON, SEASON 1904.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Ceiba, Honduras, November 1, 1904.*

SIR: I have the honor to submit the following report on the conditions and transactions at this station from July 1 to October 31, 1904, the date of closing the station:

The general conditions as a whole remain practically the same as those stated in previous reports on the periods ending June 30 and September 15, 1904. The summary of statistics is: Vessels inspected, 50; crews (number of) inspected, 960; passengers inspected, 54; aliens inspected, 21.

The general health of crews has been very good.

Respectfully submitted.

W. B. ROBERTSON,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

REPORT OF TRANSACTIONS BY ACTING ASST. SURG. W. B. ROBERTSON, SEASON 1905.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Ceiba, Honduras, July 1, 1905.*

SIR: I have the honor to submit the following report on the conditions and transactions at this station from the date of opening, April 1, till June 30, inclusive.

The passenger traffic of this port is limited, consisting mainly of the well-to-do residents of this and neighboring towns and commercial travelers from the United States.

About the end of May, upon the announcement of the presence of yellow fever at Belize and Puerto Cortes, the steamship companies suspended the ordinary methods of passenger traffic and declined to carry passengers except they were provided with a special permit from the State board of health. Since then a few ships have carried passengers under these conditions. Nothing but the regular service passenger certificate has been issued to such passengers.

As yet there has been nothing warranting the stopping of passenger traffic, and this office has been ready to issue certificates on completion of five days observation, but the action of the State board in limiting the matter to a special privilege has caused some misconception on the part of some of the passengers, owing, presumably, to the steamship agents not fully explaining their position

in the matter. In some cases, to enable passengers to get away by a given boat, considerable money has had to be spent in cablegrams in order to obtain such special permit from the State board of health.

The general cleanliness of baggage and the absence of mosquitoes is determined by inspection. Beside this, inquiries are made to ascertain the possibilities of infection by diseases other than yellow fever.

Mosquitoes are seldom, if ever, present on the vessels while loading on this coast.

From a quarantine standpoint the health conditions of this port have been very good since the opening of the season.

The mortality record seems about the same as in previous years, but accurate and reliable data are seldom available.

Malaria is the prevailing disease manifesting itself mainly in the milder forms, but showing also the severer types, with, at odd times, a case of haemoglobinuric fever.

About the 27th of May word reached this place of the presence of yellow fever at Puerto Cortes and Belize. This caused some consternation and led to the instituting of a rigid quarantine against these points. At first the authorities did not fully appreciate the importance of fumigating the schooners which came from these points before sending them to quarantine anchorage at a small island (Los Cochinos) some 5 miles from here. But later on they seemed to gradually come to a realization of the important rôle which the mosquito plays in the spread of yellow fever, and now all boats from suspected or infected points are fumigated on arrival and then sent to quarantine anchorage for some fifteen days, but this limit will probably be shortened to some six or seven days so as to be more in accordance with modern principles. The authorities are also refusing to issue clearances to schooners for Belize or Puerto Cortes.

So far these measures have resulted in keeping the disease from this city and the towns along the coast.

*Annual report of transactions.*—Vessels spoken and passed, none; steamers inspected and passed, 90; steamers disinfected, none; sailing vessels inspected and passed, 3; sailing vessel disinfected, none; number of crews on steamers, 1,828; number of crews on sailing vessels, 22; number of passengers on steamers, 120; number of passengers on sailing vessels, none; number of aliens embarking for United States, 43; pieces of baggage inspected and passed, 220; pieces of baggage disinfected, none.

W. B. ROBERTSON,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

#### BLUEFIELDS.

REPORT BY ACTING ASST. SUBG. W. H. REILLEY, SEASON 1904.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Bluefields, Nicaragua, November 1, 1904.*

SIR: I have the honor to herewith submit report of conditions and transactions at this station from October 1 to November 1, 1904.

The health and sanitary conditions of Bluefields and surrounding country have been good. No quarantinable diseases have appeared at this port during the season. The prevailing diseases being malarial fever and tuberculosis. The estimated population of Bluefields is 4,000. From October 1 to November 1, there occurred 7 deaths from the following causes:

Malarial fever, 2; heart disease, 1; accident, 1; tuberculosis, 2; paralysis, 1. Ten vessels, 166 in crews and 26 passengers were inspected and given certificates.

Respectfully,

W. H. REILLEY, M. D.,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

## REPORT OF ACTING ASST. SURG. THOMAS B. L. LAYTON, SEASON 1905.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Bluefields, Nicaragua, July 1, 1905.*

SIR: I have the honor to herewith submit my report of the transactions at this station from the time of my arrival here, April 1 last, to and including June 30, 1905.

Present officially estimated population is 3,500, of which three-fourths are Spaniards and negroes and one-fourth white foreigners.

Sanitary condition of Bluefields and, so far as can be ascertained, of the surrounding country during the past three months has been good. Prevailing diseases have been and are, a mild type of malaria, pulmonary tuberculosis, and a few cases of nephritis and of intestinal disorders. In localities that, strictly considered, are not within the limits of Bluefields, nor in its immediate vicinity, beri-beri exists. Only fruit steamers enter this port, and all arrive from and clear for New Orleans. Periodically ships engaged in the mahogany trade stop here, en route to the United States, requesting a bill of health. As they do not actually enter the port, and as regulations apply only to fruit vessels, a supplemental bill of health is furnished. No inspections of either ships or crews are made.

Fruit ships enter and clear at Bluefields Bluff, some 6 miles from the town of Bluefields. Cargoes of bananas are taken on in the Escondido River, and are loaded by laborers engaged at Bluff. Laborers do not leave the vessels until loading is completed.

The Louisiana State Board of Health has this quarantine season dispensed with the services of medical inspectors on board the ships, issuing instead strict orders to masters of vessels to prohibit the boarding of their ships by all not connected with the loading. Just prior to departure of a steamer an inspection of the crew and of the passengers' luggage is made by me.

On May 10 last a proclamation, to take effect May 18, was issued by the governor-general of the department of Nicaragua bordering on the Caribbean Sea, declaring quarantine against New Orleans, La., Port Limon, Costa Rica, Bocas del Toro and Colon, Panama.

June 10 a case of beri-beri was brought into Bluefields and died the same day. Patient came from mining regions of the Piz-Piz district of Nicaragua; informed Bureau of this case by cable. From inquiries made discovered that beri-beri is not of infrequent occurrence in the mining camps and in the mahogany camps scattered near or on the Caribbean coast.

Upon the information reaching this place of the presence of yellow fever in Puerto Cortez and Belize, the local authorities established rigid quarantine against those ports. The manager of the Bluefields Steamship Company, the only line of steamers that actually enters this port, has enjoined the company's agent in Cape Gracias a Dios, where once a month a vessel calls, to prohibit all communication with the shore. The authorities at the cape—Port Dietrich—have been instructed to permit only residents of the place to embark on crafts bound for Bluefields.

I have up to date reported 16 deaths, attributed by the attending physicians and according to the hospital records to the following causes: Pulmonary tuberculosis, 3; tetanus, 1; diarrhea, 2; acute rheumatism, 2; fever (unclassified), 2; interstitial nephritis, 1; beri-beri, 1; accidental, 1; at birth, 1; unknown, 2.

The following statistics are herewith submitted: Vessels inspected (United States ports), 30; vessels inspected (Panama ports), 6; crews inspected, 577; total number passengers inspected, 233; passengers inspected (New Orleans), 119; passengers inspected (other United States ports), 72; passengers inspected (Panama ports), 7; passengers inspected (European and other foreign ports), 35; pieces of luggage inspected, 451; passed, after inspection, 300 alligator hides, cured; permitted shipping of 1 dead body.

Respectfully,

THOS. B. L. LAYTON,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

## BELIZE.

REPORT BY ACTING ASST. SURG. WILLIAM H. CARSON, SEASON 1904.

OFFICE OF MEDICAL OFFICER IN COMMAND,  
MARINE-HOSPITAL SERVICE,  
*Belize, British Honduras, November 1, 1904.*

SIR: I have the honor to forward the following report of transactions at this station, a fruit port, from July 1 to November 1, 1904, the date when, as instructed, this station was closed.

The sanitary conditions of this tropical seaport and of the surrounding territory remain about the same as stated in my report for the period ending June 30 last, except for an increase in the death rate, mainly due to malarial fevers, intestinal diseases, and tuberculosis.

There have been 73 deaths at this port from all causes (none from contagious or infectious diseases) during this period of four months, in a population estimated at 8,500—a death rate of 34.35 per thousand per annum.

The statistics are: Vessels inspected (sailing vessel, 1), 47; vessels disinfected, none; crews (number of) inspected, 1,371; vaccinated, none; passengers from this port, 121; baggage disinfected, none; aliens inspected, 57.

Respectfully,

WM. H. CARSON,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

REPORT OF TRANSACTIONS BY ACTING ASST. SURG. WM. H. CARSON, SEASON 1905.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Belize, British Honduras, July 1, 1905.*

SIR: I have the honor to submit the following report of conditions and transactions at this station (fruit port) for the fiscal year ended June 30 last.

There have been 37 vessels, 1,067 crew, 108 passengers from this port, and 199 passengers in transit inspected.

The issuing of passenger certificates was immediately discontinued upon the outbreak of yellow fever at this port, May 21 last, which occurrence was cabled the Bureau via Puerto Cortez, May 22 last.

Holmes Cay, a small island about 11 miles north of Belize, is now being used by the United Fruit Company for the isolation and detention of their laboring fruit crews.

These laborers are taken aboard the fruit steamers by lighters from this cay, and on the return trip from the lower coast with cargo are returned to this cay to await the arrival of the next fruit steamer, without having any intercourse with this port.

All fruit steamers plying between this port and Mobile and New Orleans now have marine medical inspectors aboard, assigned them by the respective boards of health.

The living quarters on vessels bound for ports in the United States are disinfected.

There have been 84 deaths in this port since April 1 last, of which 14 were white, and it is worthy of note that these occurred within the past six weeks.

Six of the 14 deaths were due to yellow fever, and five were regarded as suspicious.

Respectfully,

WM. H. CARSON,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

H. Doc. 320, 59-1—6

## PANAMA.

*Medical officers of the Service at both domestic and foreign ports to furnish certificates of vaccination to emigrants bound for the Canal Zone.*

ISTHMIAN CANAL ZONE, EXECUTIVE OFFICE,  
Ancon, C. Z., September 19, 1904.

SIR: I have the honor to request that you will authorize officers of the United States Public Health and Marine-Hospital Service, at United States as well as foreign ports, to furnish certificates of immunity against smallpox to such emigrants for the Canal Zone or for the cities of Panama and Colon as apply for and are entitled to such certificates. These certificates will facilitate the operation of the quarantine service on the Isthmus and will prevent annoyance to the emigrant and vessel bringing him.

Very respectfully,

GEO. W. DAVIS,  
Governor.

The SURGEON-GENERAL,  
United States Public Health and Marine-Hospital Service, Washington, D. C.

Under date of November 5, 1904, medical officers of the Public Health and Marine-Hospital Service were directed to comply with the above request, and were instructed to keep a record of such transactions and make monthly reports of same to the Bureau.

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CORRESPONDENCE REGARDING WORK OF SERVICE OFFICERS DURING OUTBREAK OF  
YELLOW FEVER ON U. S. S. BOSTON AT PANAMA.

NAVY DEPARTMENT, Washington, February 24, 1905.

SIR: I have the honor to transmit herewith three letters addressed to Surgeons H. R. Carter, J. C. Perry, and C. C. Pierce, of the United States Marine-Hospital Service, now stationed at Panama, in which the Department thanks them and expresses its appreciation for the promptness and efficiency with which they successfully combatted the recent yellow fever outbreak on board the U. S. S. *Boston* at Panama, and effectively disinfecting the vessel and preventing thereby the spread of contagion.

I should be pleased if you would transmit the inclosed letters to the above-named officers.

I have the honor to be, sir, very respectfully,

PAUL MORTON, Secretary.

The honorable the SECRETARY OF THE TREASURY.

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NAVY DEPARTMENT, Washington, February 24, 1905.

SIR: The commanding officer of the U. S. S. *Boston* has brought to the attention of the Department the assistance rendered by you in attending the sick during the recent yellow fever outbreak on board that vessel at Panama, and in disinfecting the *Boston* with such skill and promptitude; and the Department desires to express its appreciation of your action and its gratefulness for the professional interest taken in the matter by you as well as for the successful results which attended your services during the outbreak.

Very respectfully,

PAUL MORTON, Secretary.

Surg. H. R. CARTER,  
United States Marine Corps Service.  
(Through Secretary of the Treasury.)



NAVY DEPARTMENT, *Washington, February 24, 1905.*

SIR: The commanding officer of the U. S. S. *Boston* has brought to the attention of the Department the promptness and efficiency with which you attended the sick of that vessel during the recent yellow fever outbreak while at Panama, and also commended your services in disinfecting the *Boston* and acting as medical officer of the vessel during the illness of the late Surgeon Kohlbase, of the Navy, and until the arrival of another surgeon detailed as his successor.

The Department desires to express its appreciation and gratitude for the skill and unrelenting attention shown by you upon this occasion where the disease was so quickly prevented from spreading throughout the ship, with the probability of a much larger loss of life by your prompt and efficient action.

Very respectfully,

PAUL MORTON, *Secretary.*

Surg. J. C. PERRY,  
*United States Marine-Hospital Service.*  
(Through Secretary of the Treasury.)

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NAVY DEPARTMENT, *Washington, February 25, 1905.*

SIR: The commanding officer of the U. S. S. *Boston* has brought to the attention of the Department the excellent services rendered by you in disinfecting that vessel during the recent yellow fever epidemic while at Panama, and the Department desires to express its appreciation and gratitude for the promptness and efficiency with which the *Boston* was disinfected and the disease thereby prevented from spreading throughout the ship and perhaps involving a severe loss of life.

Very respectfully,

PAUL MORTON, *Secretary.*

Surg. C. C. PIERCE,  
*United States Marine-Hospital Service.*  
(Through Secretary of the Treasury.)

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COLON.

REPORT OF TRANSACTIONS BY ACTING ASST. SURG. H. B. MOHR.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Colon, Republic of Panama, July 1, 1905.*

SIR: I have the honor to submit herewith report of transactions at this station for the fiscal year ended June 30, 1905.

Since July 1, 1904, the sanitary department of the Isthmian Canal Commission has assumed entire control of all sanitary matters in the cities of Panama and Colon, including the maritime quarantine at the ports of Panama and Colon, Ancon, and Cristobal.

In addition to other work the medical officer at this station has cooperated with and assisted the quarantine service at this port. This cooperation has been reciprocal, and valuable assistance has been received from the quarantine officer of Colon in the work of fumigation of vessels leaving this port.

During the past year no quarantinable diseases have been found on vessels entering this port. The strictest surveillance, however, is kept over all the shipping in the port. Owing to the absence of a properly equipped station here, or a suitable site for one, all vessels are boarded in the stream or after the ship has reached the dock. Fortunately, this port has not been threatened with infection from any port with which it has direct communication. All the West Indian ports and the ports on the South and Central American coast having communication with Colon have been remarkably free from yellow fever during the past year. All steamships bound for the southern ports of the United States during the close quarantine season are subjected to a thorough fumigation with sulphur dioxide in the open harbor just before sailing. Since the report of the case of plague at La Boca all vessels bound for ports in the United States will, as far as possible, be subjected to fumigation for the pur-

pose of killing rats aboard. This, however, can only be efficiently done when the holds of the vessels are empty.

The amount of shipping is continually increasing at this port, and communication with the Gulf ports of the United States is becoming more frequent, especially through the fruit vessels sailing under the special regulations governing such vessels. Owing to the fact that these vessels must lie at the docks, where mosquitoes abound, to discharge cargo, and for several days at a time, all passenger traffic on them has been suspended. These vessels take on no cargo here, and, owing to the frequent fumigations both here and at the home port, are practically free from rats. They also carry a medical inspector representing the health interests of the State from which they sail.

The passenger traffic to the United States is now entirely confined to the ships of the Panama Railroad line plying between this port and New York. All passengers are subjected to an examination, and the temperature of each individual taken. No one with an elevation in temperature is allowed to embark. A rejected passenger is sent to the Colon hospital for observation and treatment, and is there admitted, free of expense, until able to pursue his journey. Of such rejected passengers two have recently proven to be yellow-fever cases. If the vessel during her stay in harbor has been exposed to infection by such persons having been on board, the vessel is promptly fumigated by the isthmian quarantine service.

The sanitary condition of this port has not shown much improvement during the past year. The sanitary department of the Isthmian Canal Commission has done a great deal toward improving the appearance of the town and to add to the comfort of the people, but owing to the lack of a proper water supply and to the natural conditions which do not allow of proper drainage or sewerage nothing could be done toward the extermination of mosquitoes. Although plans have been proposed for the filling and proper drainage of the town, no work of this kind has so far been started, nor have I been able to learn just what is proposed to make the greater part of the island really habitable. Considering the large area of low swampy ground and the heavy annual rainfall—nearly 160 inches—none of the ordinary measures, such as oiling of pools for the destruction of mosquitoes, are practicable.

About the same proportion of malarial fever exists among all classes of people, and enteric troubles, more especially dysentery, have been quite prevalent. A serious outbreak of yellow fever among the many newly arrived nonimmunes has occurred. Since the first case reported in Colon in November last, there have occurred 34 cases of yellow fever, of which 9 were fatal. As the infection has been widespread over the town and many cases not traced to a definite source, and the *stegomyia fasciata* everywhere abundant, it may be said that epidemic conditions have prevailed. The fumigation of houses has been diligently prosecuted by the sanitary department, yet many foci of infection seem to have escaped. Lodging houses and barrooms have furnished many cases, and, though repeatedly fumigated, new cases from Panama and other points undoubtedly infect fresh mosquitoes and the infection is kept alive in them. It has been noted that new cases appear in the immediate vicinity of such places in from two to three weeks after a case has been found in them.

A recent case of interest was one of yellow fever in a West Indian (white) who had lived eight years on the Isthmus. Considerable comment was occasioned by the diagnosis, as these people consider themselves immune to the disease. The question of immunity among the natives and old residents of the Tropics furnishes an interesting field for study, as it is not to be doubted that through this belief many mild cases, and even grave cases, escape detection and tend to the spread of the disease.

The recent announcement of the death of a laborer on the dock at the port of La Boca, on the Pacific side, from bubonic plague has caused some uneasiness, as the conditions existing are favorable to the spread of the disease should it gain entrance here. Only the most drastic and energetic measures could check the disease if it once got a foothold. The shipping especially would be affected, as all discharging and loading of cargoes must be done at the docks, which are infested with rats. There are no facilities whatever in this port for handling cargoes on lighters in the bay, and during some months of the year the sea is too rough to permit of such work. The several South and Central American and West Indian ports having communication with Colon have placed such rigid quarantine against this port as to amount almost to nonintercourse. The Isthmus being an international highway, and this a port of call for many ships from

the principal ports of Europe and America, many countries and large interests are concerned in the situation here.

*Summary of transactions at the port of Colon, Republic of Panama, from July 1 to December 31, 1904.*—Steamers inspected, 109; sailing vessels inspected, 17; crew on steamers, 6,118; crew on sailing vessels, 135; passengers on steamers, 3,362; passengers on sailing vessels, 3.

*Summary of transactions at the Port of Colon, Republic of Panama, from January 1 to June 30, 1905.*—Steamers inspected, 122; sailing vessels inspected, 18; crew on steamers, 6,004; crew on sailing vessels, 151; passengers on steamers, 3,477; passengers on sailing vessels, none; steamers fumigated, 14; sailing vessels fumigated, 1.

Respectfully,

H. B. MOHR,

Acting Assistant Surgeon P. H. and M. H. S.

The SURGEON-GENERAL.

## ECUADOR.

### GUAYAQUIL.

#### REPORT OF ACTING ASST. SURG. FLEETWOOD GROVER.

#### PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE, OFFICE OF MEDICAL OFFICER IN COMMAND, Guayaquil, Ecuador, July 4, 1905.

SIR: I have the honor to make the following report of transactions at this port for the fiscal year ending June 30, 1905.

The year opened with yellow fever and smallpox present in Guayaquil, and grip epidemic throughout Ecuador. The two former have stayed with us throughout the year, their absence during some months being attributable rather to not having been reported than to their disappearance. Along the western coast of South America plague has spread from Valparaiso, Chile, to Paita, in Northern Peru, visiting almost every city along the coast and spreading to some interior towns. This port has fortunately thus far escaped a visitation. This I believe is due rather to its inaccessibility by land, as no railroads connect it with outside cities, and the absence of a wharf alongside of which seagoing vessels might moor, than to the precautions which are taken.

In Ecuador smallpox and yellow fever have appeared in various places along the line of the Guayaquil and Quito Railroad and in the coast towns and river villages. In the province of Manabi the former has been especially virulent and claimed many victims. A statement is subjoined showing the total mortality, with the principal causes, for the years 1903-4 and 1904-5.

*Mortality for the years 1903-4 and 1904-5.*—Smallpox, 1903-4, 4; 1904-5, 53; tuberculosis, 1903-4, 323; 1904-5, 377; yellow fever, 1903-4, 142; 1904-5, 142; other causes, 1903-4, 2,502; 1904-5, 2,427; totals, 1903-4, 2,971; 1904-5, 2,999.

A disease, called here "grano de oro," appeared in a small village (Chongon) about 24 miles from here. This I judge, from the descriptions given me by physicians here, to be anthrax. This is denied, however, by others. If this be anthrax it is important, because of the movement of hides from this section to the United States. During the fiscal year just ended 1,359,878 pounds (approximately 61,800 hides), at a valuation of \$206,903.68, were shipped through this port.

*Vessels.*—There are four lines of steamers with which I have to deal which come regularly to this port.

Four vessels have had infectious or contagious diseases on board during the year. Yellow fever on the British yacht *Cavalier*, which cleared for Ancon October 1, and on the steamship *Limari*, which arrived from Ancon December 4. Smallpox on the steamships *Loa* and *Palena*, which arrived from southern ports December 17, 1904, and March 11, 1905, respectively.

During the year 108 vessels cleared for ports in the United States or the Republic of Panama; four were American sailing vessels, and one a British yacht.

*Bills of health.*—Within the past year there has been a marked improvement in the uniformity of issuing bills of health. In the earlier part of the year many vessels left small ports without applying for or obtaining American bills of

health, others obtained a paper from the port authorities at the original port of departure, which the port officials at the several ports countersigned, while others brought bills of health which were blank, except for the form printed thereon and the name of the vessel and consular officer who issued it. Surg. H. R. Carter of the Service took the matter up, and recently (May 22) the State Department issued a circular of instructions with regard to this matter.

During the year 123 bills of health were issued.

*Disinfection of vessels and inspection of personnel.*—Before issuing bills of health for ports in the United States or Panama, all vessels which come from an infected port or which, bound direct to ports in the United States or Panama, anchor in a place accessible for infected stegomyiæ, are disinfected.

During the year, 80 vessels were disinfected. I have found it necessary to refumigate only one vessel for violation of the Service regulations. This was in the case of the *Colombia*, which was fully reported at the time. The fumigation is by sulphur dioxide, generated by the Clayton apparatus. The holds, storerooms, and sleeping apartments of crew and steerage passengers are fumigated.

Passengers from this port are examined on the day of sailing. By arrangement with the several steamship agents, passengers are required to have a certificate from me before a ticket will be issued by them. These certificates are attached to the tickets and are evidence to the officers of the vessel that the passenger has complied with the regulations. With each vessel I send a letter to the medical officer in command at the port of arrival as to the condition of the vessel, crew, and passengers and the health of this city and surrounding territory. The personnel of the coasting vessels are not examined, but are passed on a certificate from the ship's surgeon. Number of crew not examined, 923; passengers not examined, 554. These vessels take ten days to make the trip. The subjoined table will show the distribution of the personnel of the several vessels examined:

	Crew.	Passengers sailing.		Passengers landed.		Passengers in transit.		Total.
		First class.	Second class.	First class.	Second class.	First class.	Second class.	
Isthmus .....	4,902	476	438	292	274	881	458	7,806
San Francisco .....	729	10	8	9	5	18	25	799
Charleston, S. C. ....	38							38
Fort Townsend .....	19							19
Total .....	5,778	486	446	301	279	899	483	8,662

Because of instructions received from Ancon I began, early in August, issuing certificates of immunity (yellow fever) to passengers who could produce evidence of such immunity, and to label all baggage from this port. From that time 173 immune certificates have been issued and 1,891 pieces of baggage inspected and labeled. By instructions contained in Bureau circular of November 5, 1904, received December 6, 1904, I began issuing certificates of vaccination. Since then 187 certificates have been issued.

Through Consul-General Dietrich I have endeavored to get reports from the consular agents in Ecuador relative to the health condition in their territory. After a few reports were received the agents stopped sending them.

Respectfully,

FLEETWOOD GRUVER,  
Acting Assistant Surgeon.

The SURGEON-GENERAL.

## PERU.

## CALLAO.

REPORT BY ASST. SURG. B. J. LLOYD.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Callao, Peru, July 23, 1905.*

SIR: I have the honor to submit the following report of transactions at Callao, Peru, for the year ended June 30, 1905:

Number of bills of health issued, 83; number of vessels inspected and fumigated to kill vermin, 81; number of vessels partially disinfected on account of quarantinable or suspicious illness, 10; number of persons inspected, 9,890; number for San Francisco and way ports, 1,391; total for all ports, 11,854.

Number of pieces of baggage inspected and passed, 4,321; number of pieces of baggage disinfected, 6,427; number of certificates of nonexposure to plague given, 3,491; number of cases of quarantinable disease prevented from embarking at port of departure, 6; number of cases of quarantinable disease appearing on vessels of Panama line during the year, smallpox 21, plague 2; number of suspicious deaths, no diagnosis made, 3; number of such vessels infected during the year, 10; number of persons vaccinated, 469; amount of sulphur burned in fumigating vessels, 19 tons.

*Progress of epidemics.*—The plague situation in Peru is considerably improved over last year, but the disease is widely disseminated in South America, and the best we can say is that we are one year nearer the extermination of plague from the western hemisphere than we were a year ago. I have received somewhat incomplete reports of 912 cases of plague in Peru since October, 1903. No trustworthy statistics are available concerning the number of cases which have occurred in Chile. A study of 386 cases of plague made by Dr. J. B. Agnoli indicates a mortality of 40 per cent in cases treated by Yersin's serum and a general mortality of 48 per cent, showing that in cases not so treated the mortality is considerably higher.

Smallpox has been epidemic in Valparaiso for more than a year and has spread to many other Chilean ports. Official reports place the average daily number of cases at present at 110 and the number of deaths at 35 per day.

The work which is being done on this coast could be greatly simplified by a proper cooperation of the sanitary and commercial representatives of Chile, Peru, Ecuador, Colombia, and Panama, together with representatives of the Service and the Central American republics. As the work promises to continue indefinitely, I would recommend that steps be taken to bring about this cooperation. By this means much useless work could be suspended and other much-needed measures adopted instead.

I can not speak too highly of the hearty cooperation of the sanitary and port authorities of Peru in connection with the work here and of the many courtesies extended.

Respectfully,

B. J. LLOYD,  
*Assistant Surgeon.*

The SURGEON-GENERAL.

## HAWAII.

## HONOLULU.

## REPORT OF TRANSACTIONS BY PASSED ASST. SURG. L. E. COFER.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Honolulu, Hawaii, July 15, 1905.*

SIR: I have the honor to make the annual report of transactions at this station for the fiscal year ending June 30, 1905, as follows:

*Transactions division Marine-Hospital relief.*

Number of hospital cases remaining under treatment July 1, 1904.....	16
Number of hospital cases admitted during fiscal year 1904-5.....	162
Total to be accounted for.....	178
Number discharged.....	166
Number carried over into fiscal year 1905-6.....	12
Number of examinations for pilot's license.....	2
Number of physical examinations performed.....	15
Number of out-patients treated.....	404
Number of times out-patient relief furnished.....	777

*Transactions division immigration inspection.*

Total number of immigrants inspected.....	11, 152
Total number certified for deportation.....	152
Total number deported.....	123
Total number admitted.....	11, 029
Total number detained for diagnosis.....	40

*Report, by months of inspection, of aliens at port of Honolulu during year ending June 30, 1905.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July.....	1,001	0	0	
August.....	559	16	16	Trachoma, 16.
September.....	765	19	17	Trachoma, 17.
October.....	495	5	4	Trachoma, 8; mitral regurgitation of heart, 1.
November.....	1,247	12	12	Trachoma, 12.
December.....	623	1	1	Poisoned wound of hand and general debility, 1.
January.....	1,068	12	9	Trachoma, 9.
February.....	1,709	14	14	Trachoma, 11; syphilis, 1; tubercle, 1; hernia, 11.
March.....	465	5	4	Trachoma, 8; gonorrheal ophthalmia, 1.
April.....	1,269	9	8	Trachoma, 8.
May.....	1,560	44	29	Trachoma, 29.
June.....	391	15	9	Trachoma, 9.
Total.....	11,152	152	123	

## DIVISION OF OUTGOING QUARANTINE.

On account of the presence of bubonic plague in Honolulu, outgoing quarantine restrictions were begun on August 26, 1904, and discontinued October 25, 1904.

*Transactions.*

Number of vessels inspected and bills of health given.....	38
Number of vessels disinfected.....	19
Number of cabin passengers inspected.....	480
Number of steerage passengers inspected.....	862
Number of crew inspected.....	1, 159
Number of pieces of steerage passengers' baggage disinfected and passed.....	1, 024
Number of pieces of crews' baggage disinfected and passed.....	454
Number of hides disinfected.....	1, 958
Number of packages of freight disinfected.....	188
Number of persons declined certification.....	3

*Division of quarantine station proper.*

Number of Orientals detained in quarantine for observation.....	1, 039
Number of Europeans detained in quarantine for observation.....	57
Number of pieces of baggage disinfected.....	2, 199
Number of patients in hospital with quarantinable disease.....	9
Number of days the station has been in quarantine.....	77

*Annual report of incoming transactions at Honolulu national quarantine station for year ending June 30, 1905.*

Month.	Steam vessels inspected.			Sailing vessels inspected.			Vessels disinfected.	
	Number.	Crew.	Passengers.	Number.	Crew.	Passengers.	Steam.	Sailing.
July.....	21	2, 534	4, 466	10	149	22	0	0
August.....	20	3, 185	3, 565	20	816	81	1	0
September.....	17	3, 067	4, 433	10	174	10	0	0
October.....	22	3, 080	4, 414	10	151	17	0	0
November.....	17	2, 614	4, 797	6	151	21	0	0
December.....	22	3, 421	4, 720	13	179	19	0	0
January.....	16	2, 414	5, 498	12	189	4	0	0
February.....	22	3, 487	5, 955	8	117	12	0	0
March.....	19	2, 830	5, 430	22	832	13	0	0
April.....	23	3, 738	5, 209	14	223	12	1	0
May.....	25	4, 255	6, 841	19	235	41	0	0
June.....	18	2, 420	3, 514	14	236	14	0	0
Total.....	242	36, 950	57, 842	158	2, 531	216	2	0

*Transactions division of incoming quarantine at subports in the Hawaiian Islands.*

Support.	Steam vessels inspected.			Sailing vessels inspected.		
	Number.	Crew.	Passengers.	Number.	Crew.	Passengers.
Hilo.....	10	347	63	26	384	44
Mahukona.....	0	0	0	22	200	0
Lahaina.....	0	0	0	10	159	0
Kahului.....	3	74	0	11	189	2
Kihei.....	1	28	0	2	32	0
Koloa.....	0	0	0	2	22	1

Respectfully,

L. E. COFER,  
*Passed Assistant Surgeon, Chief Quarantine Officer,*  
*Hawaiian Islands.*

The SURGEON-GENERAL.

## PHILIPPINE ISLANDS.

## MANILA AND SUBPORTS.

REPORT BY PASSED ASST. SURG. VICTOR G. HEISER, CHIEF QUARANTINE OFFICER.

TREASURY DEPARTMENT,  
PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF THE CHIEF QUARANTINE  
OFFICER FOR THE PHILIPPINE ISLANDS,  
*Manila, P. I., July 26, 1905.*

SIR: Pursuant to the instructions contained in Bureau circular letter of April 20, 1905, I have the honor to submit the following report of the transactions of the Service in the Philippine Islands for the fiscal year ended June 30, 1905:

There has been a great improvement in the health situation. The number of vessels found infected upon arrival was only about half of that of last year. At the time the last annual report was written the Philippines were threatened with an invasion of cholera, which was present at nearly all the Oriental ports with which the islands are in constant communication by vessels. The quarantine regulations with regard to cholera were enforced at the ports of departure as well as the ports of arrival in the Philippines, and it is no doubt due to their intelligent application that the undersigned is enabled to report that the Philippine Islands have remained entirely free from this disease throughout the year.

Owing to the constant presence of quarantinable diseases in the nearby foreign countries, the responsibility which confronts the Service in preventing their introduction has not been diminished, and as the number of dangerous communicable diseases in the Philippines is constantly decreasing, it is more important than ever that no further infection be introduced. The successful accomplishment of this task will require the very best work of the Service and the increasing vigilance of its officers.

During the period covered by this report, the Service has been conducted much in the same manner as in the past years. One important departure, however, deserves special mention, namely, the aid rendered by the Army and Navy in carrying out the quarantine regulations. At the ports of Jolo and Zamboanga the Army permits its medical officers to act as quarantine officers, and at Cavite the admiral commanding the Asiatic Fleet has kindly detailed a medical officer to act as quarantine officer at that port, with instructions to carry out the United States quarantine laws and regulations, under the direction of this office. With the aid of the foregoing services this office is in much better position to make the quarantine regulations effective, and the assistance rendered is hereby gratefully acknowledged.

For the purpose of carrying out maritime quarantine in the islands, the Service has always assumed control over quarantine matters at ports of entry, and the board of health for the Philippine Islands has always taken charge of similar duties at other ports. This precedent was approved by the Bureau in a letter dated April 8, 1904, and it is satisfactory to report that this principle has received



further recognition by act No. 1340 enacted by the Philippine Commission May 4, 1905, section 1 of which reads as follows:

The board of health for the Philippine Islands shall, with the approval of the Secretary of the Interior, make and promulgate quarantine regulations for the government of vessels at all ports of the Philippine Islands except ports of entry, and fix penalties for violations thereof; \* \* \*

Pleasant relations have been maintained with the shipping interests, the Army, the Navy, the customs service, and the insular government in general.

#### PERSONNEL.

Passed Asst. Surg. Victor G. Heiser, chief quarantine officer for the Philippine Islands.

*Manila.*—Passed Asst. Surg. Victor G. Heiser, in command; Passed Asst. Surg. John D. Long; Asst. Surgs. R. H. Creel and Herbert M. Manning; Pharmacists N. C. Comfort and Chas. R. McBride.

*Mariveles.*—Passed Asst. Surg. Chas. W. Vogel.

*Iloilo.*—Passed Asst. Surg. George W. McCoy.

*Cebu.*—Passed Asst. Surg. Carroll Fox.

*Zamboanga.*—Acting Asst. Surg. M. A. W. Shockley.

*Jolo.*—Acting Asst. Surg. W. F. Lewis.

*Cavite.*—Acting Asst. Surg. A. R. Alfred.

Seventy-one more persons are employed by the Service, who perform the duties of clerks, disinfectors, vaccinators, crews, attendants, etc. Total personnel, 83.

During the month of January, in compliance with Bureau orders, the chief quarantine officer visited the principal ports of China and Japan for the purpose of conferring with the Service officers stationed at those ports with regard to immigration and quarantine matters which affect the Philippines.

During the month of March the position of commissioner of public health for the Philippine Islands was tendered to the chief quarantine officer by the governor-general, and with the consent of the Bureau he accepted and entered upon his duties April 28, 1905, with the understanding, however, that his new duties should be in addition to his former ones.

All stations of the Service were visited at least once by the chief quarantine officer during the year.

In accordance with the policy outlined in the last annual report, all the commissioned officers, at least, have been given an opportunity to avail themselves of the special details which have arisen from time to time. The Philippine assignment, however, is probably the most trying of any in the Service. The quarantine season extends throughout the year, and the officers are required to be on active duty from sunrise to sunset. In view of the foregoing, attention is again respectfully invited to the recommendation of last year, which stated that it would be more satisfactory to our officers if they could look forward to a definite date at which their time of duty would be completed. Exceptions, of course, should be made in the cases of officers who express a preference to remain here.

The thanks of the Service are again due to the faithful and cheerful manner in which all its officers and employees performed their duties. The pharmacists and the remainder of the clerical force of the Manila office deserve special mention for the many hours of overtime work which they have performed.

## MANILA OFFICE.

This office serves the purpose of a bureau for the Service in the islands.

*Disbursement of funds.*—All bills contracted by the Service are settled by check. Accounts are kept with the insular auditor and the insular treasurer. The many safeguards and requirements which are thrown about public funds must be complied with, all of which necessitates the accomplishment of numerous vouchers and other correspondence.

*Appropriations.*—An accurate set of accounts must be kept which will show constantly the state of the appropriation in order that the expenditures may not exceed the amount available. The legality of the bills must be passed upon, and in many instances additional vouchers prepared for signature.

*Outgoing inspection.*—The clerical force is utilized for inspecting and labeling all baggage and freight that is sent to the United States. This amounts to many thousands of pieces per month. It is often not practicable to send baggage or other goods to Mariveles for disinfection, and, in consequence, such work must be done here with formaldehyde.

There has been great difficulty experienced in obtaining good clerical assistance. Similar positions in the insular government are better paid, and the leaves of absence granted are more liberal. The great amount of work makes it necessary to observe longer office hours than is the case in insular offices. The latter require seven hours per day, while this office requires at least nine hours' work per day.

## VESSELS BOARDED.

There were 3,367 incoming vessels boarded at Manila and 8,470 at the other six ports of the islands, a total of 11,837. This is a decrease of 713 at Manila and an increase of 706 at the remaining ports, or a total difference of 7 in favor of last year. The actual number of vessels, however, that entered Philippine ports was much greater than last year. For quarantine purposes a number of vessels were exempted from inspection, for instance: After October 25, 1904, inspection was waived for all interisland vessels which carried an army medical officer as part of the crew. During April, 1905, instructions were issued to exempt all interisland vessels from inspection which had not been out over twenty-four hours and which arrived from ports known to be noninfected.

## VESSELS DISINFECTED.

One hundred and fifteen vessels were disinfected. Of this number 104 were disinfected at the Manila station and the remainder at Iloilo and Cebu. In addition to the foregoing there were 18 partial disinfections of vessels. Twenty-eight were disinfected on account of quarantinable diseases being found on board upon arrival, the remainder were disinfected on account of coming from infected ports, or because they had no bills of health, or at the request of the board of health on account of being infected with rinderpest, or

other cattle diseases. From the foregoing it will be seen that there has been a great decrease in the number of actually infected vessels. Last year there were 58, as against 28 for this year. This indicates that there has been a great improvement in the sanitary condition of the Philippines and is indeed very gratifying.

The advantage of having a fully equipped quarantine station was well illustrated in the case of the United States battle ship *Wisconsin*. Smallpox broke out on the vessel February 13, 1905. The usual measures which are at the command of a ship's medical officer for stamping out the disease were taken. Notwithstanding this, however, smallpox again broke out February 26. This office then offered the use of the Mariveles quarantine station, which was accepted by the admiral commanding the Asiatic fleet. The cases were removed and the suspects segregated. The crew were taken ashore, bathed, vaccinated, and their effects disinfected with steam. The vessel was thoroughly disinfected. The entire personnel, including the officers, were placed in strict quarantine. No further cases occurred. When it is remembered that the crew consisted of 719 men, and that the quarters of even a large battle ship are necessarily cramped, the impracticability of coping with such a situation on board will be appreciated. The foregoing case again confirms the past experience of the service, viz: That even though there be all possible facilities for dealing with quarantinable diseases, yet they can not be successfully handled on board vessels, and that the facilities of a modern quarantine station are necessary for stamping out disease promptly, and with the minimum danger to human life.

#### VESSELS FUMIGATED.

Three hundred and three vessels were fumigated with sulphur for the purpose of killing rats and other vermin. This work requires a great amount of labor and patience. The fact that no claim has been presented for damages emphasizes forcibly the desirability of conducting this work under the direct supervision of trained officers. Ignorance or carelessness in one instance might cause thousands of dollars' worth of damage.

On the whole, sulphur is probably the best agent that could be employed for this purpose, yet it has many disadvantages. It is entirely unsuitable, for instance, for vessels that have tea in their cargo. If the faintest taste of sulphur should be imparted to the tea it would depreciate greatly in value. In the search for a more suitable gas, cyanogen has been under consideration, and a number of experiments were made. These, however, were discontinued on account of the great danger to human life. The crews of vessels in the Orient, with the exception of the officers, are composed almost entirely of Chinese, Malays, or Indians, and the impracticability of conversing with these races, owing to the difference of languages, makes it impossible to explain to them the danger of inhaling the deadly cyanogen. The disagreeable odor of sulphur dioxide causes them to avoid it, but since cyanogen has little or no odor, they would not avoid it on that account. It is no uncommon experience, even after a vessel has been carefully searched, to find, after the sulphur has been ignited, that a member of the crew who has been asleep, perhaps in a

dark place in the forecastle, will hastily make his appearance on deck. If the gas in such instances had been obtained from cyanide of potassium, a fatality would have resulted.

#### CARGO.

The sanitary supervision of both incoming and outgoing cargo requires probably more time and attention than any one other branch of the work conducted by the Service in the islands. The Service officers stationed at the China and Japan ports have great difficulty in inspecting the cargo destined for the Philippines. The Oriental shippers are very clever in their attempts to avoid the restrictions, and very persistent in attempting to ship cargo that is prohibited. It is no uncommon experience to find that boxes which are manifested as dry goods, for instance, will in reality contain vegetables. A conference of the chief quarantine officer with the Service officers stationed in China and Japan resulted in a much better understanding of how this traffic could be better controlled and at the same time not interfere unnecessarily with shipping. The important question of what vegetables may be safely admitted and the rules which should govern such shipments is now on a much more satisfactory basis than at any time since the Service took charge of the quarantine of the islands in 1900.

The regulations which govern this class of cargo are fully set forth in the correspondence which follows:

U. S. TREASURY DEPARTMENT,  
PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF THE CHIEF QUARANTINE OFFICER  
FOR THE PHILIPPINE ISLANDS,  
*Manila, P. I., February 16, 1905.*

SIR: I have the honor to inclose herewith some correspondence between the collector of customs for the Philippine Islands, Passed Asst. Surg. M. J. White, at Hongkong, and this office with regard to the importation of vegetables.

It will be observed that the Service medical officer at Hongkong has been requested by this office, subject to the approval of the Bureau, to prevent shipment of fresh vegetables into the Philippine Islands for reasons fully set forth in the letter to Passed Asst. Surg. M. J. White.

I would respectfully state that Doctor White and I have discussed this matter at great length, and have come to the conclusion that the shipment of vegetables as suggested is the only safe course to pursue for the present, and I now submit this matter to the Bureau with the hope that it will see its way clear to approve the plan outlined.

Respectfully,

VICTOR G. HEISER,  
*Passed Assistant Surgeon,  
Chief Quarantine Officer for the Philippine Islands.*

The SURGEON-GENERAL,  
*United States Public Health and Marine-Hospital Service,  
Washington, D. C.*

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OFFICE OF THE COLLECTOR OF CUSTOMS FOR THE PHILIPPINE ISLANDS,  
*Manila, February 14, 1905.*

SIR: After careful study of the efforts which have been made by this Bureau in the past two years to enforce the quarantine regulations of these islands, as prescribed from time to time by the chief quarantine officer, with regard to the importation of fresh garden produce from China and other countries, the undersigned has to state that it is a practical impossibility to enforce said regulations with any degree of safety to these islands.

To illustrate, at the present time the importation of certain fresh garden produce, such as tomatoes, strawberries, celery, and lettuce, is absolutely prohibited when said articles originate in China, and the importation of certain

other fresh vegetables from that country is dependent upon their having a certificate from the Marine-Hospital Service officer at their port of departure in China to the effect that they are raised in uninfected districts. Experience has shown that it is absolutely impossible for Marine-Hospital Service officers in China to make these certificates with any degree of certainty, and that even where all possible care is exercised, crates or baskets will be substituted, goods will be ambiguously or falsely manifested, and dangerous products thereby brought into these islands.

It is the belief of this office that so imminent is the danger of a recurrence at any time of the cholera epidemic which swept through these islands two years ago, through the introduction of infected fresh vegetables from China, that the health of the people of these islands, commercial stability, encouragement to capital to come here, all unite in imperatively demanding that the importation of certain fresh garden produce from China be absolutely prohibited. Articles, such as celery, tomatoes, lettuce, and cabbage, which are generally eaten raw, constitute a daily menace to the welfare of these islands. These articles are imported from several safe countries, such as Japan and the United States, and it is believed that their importation from the latter country is becoming more and more practicable as time goes on. Whether this be so or not, the undersigned believes that the impracticability of enforcing the present regulations against the importation of these articles, either from China or from infected districts in China, demands an absolute prohibition of their importation into these islands from that country.

It is understood that this is a matter of local quarantine regulation, and that the quarantine service here has full power to take this action.

Respectfully,

W. MORGAN SHUSTER,

*Collector of Customs for the Philippine Islands.*

Dr. V. G. HEISER,

*Chief Quarantine Officer for the Philippine Islands.*

U. S. TREASURY DEPARTMENT,  
PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF THE CHIEF QUARANTINE OFFICER  
FOR THE PHILIPPINE ISLANDS,  
Manila, P. I., February 16, 1905.

SIR: Referring to our recent correspondence with regard to the substitution of green vegetables for other articles which were actually certified to by you, I have the honor to inclose herewith a copy of a letter from the collector of customs with regard to the importation of fresh vegetables.

From the same you will observe that he states that it is impossible to control the importation of nondutiable goods, into which class these products fall, according to the Philippine tariff schedule.

In view of this statement, coupled with the fact that fresh garden products from China are always open to great suspicion, and moreover, since the Service has made every endeavor possible to regulate the importation of fresh vegetables during the past four years, and that these efforts have been repeatedly defeated by shippers at Hongkong, and, furthermore, since the records of this office show that cholera was in all probability introduced into the Philippine Islands by fresh vegetables from Hongkong, I would respectfully request that you refuse to permit the shipment of such vegetables and other products from China which are ordinarily eaten raw, as, for instance, cabbage, celery, lettuce, strawberries, and cauliflower.

Referring to our recent conference in Hongkong with regard to such vegetables that ordinarily must be cooked before being eaten, or which for commercial reasons must necessarily be shipped in a dry condition, as, for instance, onions, potatoes, garlic, etc., I see no objection to their entrance into the islands, unless, of course, cholera should be epidemic in the sections from which they arrive, or for some other equally important reason.

A copy of this correspondence will also be forwarded to the Bureau, with a request that this course be approved.

Respectfully,

VICTOR G. HEISER,

*Passed Assistant Surgeon,*

*Chief Quarantine Officer for the Philippine Islands.*

Passed Asst. Surg. M. J. WHITE,

*United States Public Health and Marine-Hospital Service, Hongkong.*

TREASURY DEPARTMENT,  
BUREAU OF PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
Washington, April 6, 1905.

SIR: Referring to your letter of February 16, 1905, inclosing correspondence between the collector of customs for the Philippine Islands, Passed Asst. Surg. White, at Hongkong, and yourself with regard to the importation of vegetables, requesting cooperation of Passed Asst. Surg. White in preventing the shipment of certain fresh vegetables to the Philippine Islands, you are informed that your action in the matter is approved, and instructions have been sent to Passed Asst. Surg. White to comply with your request.

Respectfully,

WALTER WYMAN, *Surgeon-General.*

Passed Asst. Surg. VICTOR G. HEISER,

*Chief Quarantine Officer for the Philippine Islands, Manila, P. I.*

Permits from this office are still required for all ship's stores which are landed in the Philippines. While this regulation may work a slight inconvenience in a few instances, yet the purpose which it serves fully justifies its continuance. It is only by knowing exactly what articles are landed here that an effective check may be had upon the landing of prohibited vegetables and other suspicious food-stuffs. Until this system was adopted it was no infrequent occurrence to find Chinese vegetables in Manila that never appeared upon the manifest of an incoming vessel.

The manifests of all cargoes shipped to the United States are viséed. Whenever cargo appears thereon which is considered suspicious, a representative of this office inspects it before it is put aboard, and whenever necessary suspicious cargo is disinfected.

At the request of the insular board of health its regulations with regard to the shipment of hides are enforced. They provide that all hides must be accompanied with a certificate issued by the health officer stationed in the district in which the hides originate, which states that they have been taken from animals which were free from infection at the time they were killed.

OUTGOING QUARANTINE.

Traffic between the Philippines and the United States continues to be heavy. Sixteen army transports sailed for the United States during the year, and 12 of these carried steerage passengers. An average of almost 1,000 persons for each transport were bathed and their effects disinfected at the Mariveles quarantine station. The crew and passengers of all vessels were inspected on board prior to sailing.

During the year 21,447 pieces of baggage were disinfected and 24,226 pieces inspected, a total of 45,673, all of which were labeled in accordance with the regulations.

CHOLERA.

The islands have remained entirely free from this disease since April, 1904. Suspicious cases were reported at Iloilo, Fort McKinley, and at Bilibid prison, Manila, but careful bacteriological examination showed that the disease was not cholera. The fact that there were no other cases which could even be considered suspicious fully confirmed the microscopical findings.

Suspected cases of cholera were encountered on two vessels. The first was on the steamship *Elcano* at Iloilo. The vessel was held two days for the purpose of observing a case of suspicious illness. The subsequent clinical history of the case, however, was such that the quarantine officer on duty there felt fully justified in excluding diagnosis of cholera. The other case occurred on the steamer *Gaarden* during the time the vessel was en route from Saigon to Manila. There was no medical officer aboard, but the master of the vessel reported that when forty-eight hours out of Saigon one of the quarter-masters was seized with violent pains in the abdomen, cramps in the limbs and back, profuse diarrhea, with rice-water-like stools. Death took place several hours after. Burial was immediately made at sea. The next day another member of the crew was seized with similar symptoms and died within thirty-six hours. This victim was also buried at sea. Upon arrival here the vessel, with all on board, was immediately remanded to the Mariveles quarantine station and thoroughly disinfected, after which process it was held to complete five days. No further cases appeared up to the end of that period, and the vessel, with personnel, was released.

Instances of the kind mentioned above show the importance of having a rigid inspection made upon the arrival of vessels and of having the proper facilities for taking such sanitary measures as may be necessary.

#### PLAGUE.

It is to be regretted extremely that our present knowledge with regard to the transmission of this disease has not been materially enhanced during the year. Of all the questions which confront the quarantine officer in the Orient, this is probably the most important. It would seem that this knowledge should soon be within our grasp. A most significant observation is the fact that for the last three years at least the increase and decrease in the number of cases takes place almost simultaneously at Foochow, Amoy, Hongkong, Manila, and, to a certain extent, at Singapore. It very frequently occurs during the same month and the same week at the places mentioned. These ports are distributed through more than 25 degrees of latitude, and the conditions and temperatures vary very much on any given day. The largest number of cases occur during the months of May and June, after which there is a gradual decline until December. During the latter month plague disappears almost entirely.

In the Philippines the plague situation shows a very great improvement. Plague is still confined to Manila and Cebu. A case was reported in Samar, but upon investigation the diagnosis could not be confirmed. There was also one case in Cavite in May, but none has been reported from that place since that date. In Manila the situation is much more favorable than in previous years, the number of cases averaging less than one per week. Last year there occurred from January to July 63 cases; this year during the same period there were 33 cases. By comparing the two fiscal years about the same ratio is maintained as during the fiscal year 1904, when there were 101 cases, as against 51 for 1905. The mortality for both years was over 90 per cent.

At Cebu the number of cases has remained about the same. During the fiscal year 1904 there were 19 cases and 14 deaths, and this year there were 20 cases and 18 deaths.

The records of Manila last year reveal a great improvement over the previous year. This favorable showing was attributed to the extensive use of the Shiga prophylactic serum. This year showed a still greater improvement over the preceding year, yet there was a very limited amount of serum used. This fact merely demonstrates that as yet we do not know which of the measures used to combat plague are responsible for its control, but the fact must not be lost sight of that while in the preceding years serum was being extensively used, at the same time the sanitary condition of the houses was constantly undergoing improvement, and it may have been due to that fact that the number of cases was lessened.

The means for combating the disease in Manila at the present time may be stated briefly to consist of isolation of the sick, inoculation of the contacts with serum, disinfection of the premises, the destruction of rats, and the making of such changes in the construction of the houses as will admit the free entrance of light and air and the proper disposal of sewage. With a view to preventing its spread to other parts of the Philippines by vessels, the fumigation of all ships that leave Manila and Cebu has been rigidly carried out. Practically all the measures to prevent the spread of the disease to other parts of the Philippines have been based upon the theory that the same means that will destroy rats will also prevent the conveyance of plague.

Plague was encountered on one vessel during the year. The case occurred in Cebu Harbor, and was probably contracted ashore at that port. No plague was detected on vessels from foreign ports. This was in all probability due to the careful inspection made by Service officers stationed in China and Japan.

#### SMALLPOX AND VACCINATION.

The systematic vaccination of the islands which is being done by the board of health is keeping the disease in check. The quarantine service, however, has encountered more vessels with smallpox aboard this year than for any similar period since the service has been in the islands. No less than 19 vessels arrived with the disease aboard. Thirty-four cases came under observation, 28 of which were actually removed from vessels, the remaining 6 having developed during quarantine detention within the incubation period at the Mariveles quarantine station. Last year there were only 9 vessels on which the disease was found, which shows an increase this year of over 100 per cent.

In former years secondary cases were rare, but this year they were more common. The Service has probably had more experience with smallpox aboard vessels during the past five years in the Philippines than at all the national quarantine stations combined.

The records show that, though there were many thousands of persons quarantined on account of this disease, no secondary cases ever occurred among cabin passengers. In view of this experience it would appear that there is no necessity for quarantining cabin passengers for fourteen days, disinfection and vaccination of all those



exposed being sufficient. Exceptions, however, should be made in the cases of those persons who were never vaccinated.

The Mariveles quarantine station had contacts in quarantine almost every week during the entire year. This was very trying on the personnel of the station, because no one except the medical officers was allowed to leave the reservation while there were suspects in detention.

The systematic vaccination of interisland crews was continued. Owing to the epidemic of smallpox in Shanghai, all crews and steerage passengers from that port between the months of November and June were vaccinated.

The Service in the islands vaccinated a grand total of 20,887 persons. Of these there were 6,771 members of crews vaccinated at Manila, with 3,393 known "takes;" at Iloilo there were 4,387 persons vaccinated, with 1,096 known "takes," and at Cebu there were 3,242, with 77 known "takes." At Manila, then, the proportion of "takes" has been over 50 per cent. There were probably more, but they did not come under observation. There were 1,742 vaccinations of persons on outgoing vessels. These, of course, did not again come under observation, and the number of "takes" is not known.

On June 15 a circular was sent to the agents of vessels and others concerned soliciting their assistance in the vaccination of crews. To this end they were requested not to hire any members of crews unless they had a vaccination certificate issued by the Service. In order that this might not work any hardship, the agents were informed that all nonvaccinated persons whom they wished to employ could be first sent to the quarantine office, where they would be vaccinated free of charge. The shipping interests entered heartily into this plan, and it is hoped that the work will soon be completed.

The systematic vaccination of crews is beginning to yield results. This is well known by the fact that while there were many more vessels with smallpox this year than there were last year, yet the percentage of cases among crews was actually less.

During the year the vaccination of the city of Manila was completed. If the efficacy of vaccination needs any further confirmation this city presents most convincing proof. Since time immemorial Manila has been afflicted with smallpox. The pits on the faces of the inhabitants bear ample testimony to this fact.

Last year there were 87 cases, with 33 deaths; this year there were 39 cases, with 12 deaths. The cases this year occurred almost entirely among persons who were merely visitors to the city and came in overland. The few isolated cases that developed in Manila occurred among persons who had escaped vaccination:

The following significant extract has been taken from the hospital report of a local Chinese physician:

Not a single case of smallpox has been admitted. This disease is really very rare among the Chinese residents of this city, owing, undoubtedly, to the fact that every Chinaman had to be vaccinated by a doctor of the Marine Hospital Service of the United States at the port of his departure for Manila, and also to the compulsory measures used by our board of health to vaccinate everybody once a year.

## LEPROSY.

Cases of leprosy were detected on three vessels during the year. One other vessel carried 24 lepers, under the supervision of this office, from a leper colony in the provinces to the colony in Manila. The vessels were thoroughly disinfected and all other precautions taken.

The board of health now has record of 3,771 lepers in the islands, and of these 993 are actually confined in colonies.

The work of constructing the Culion leper colony on the island of Culion, which has been set apart for this purpose, is actually under way, and it is expected that in a few months at least 600 lepers can be accommodated.

Observation of lepers already in colonies shows that only about one-third of them are capable of performing any manual labor, and when the labor which will be required in taking care of their personal needs is deducted, it will be seen that there is very little left which can be devoted toward their maintenance. The cost of providing for the entire number will therefore be a very heavy fixed charge upon the insular government; and it is doubtful whether the revenues of the islands will permit of this being accomplished at an early date.

## NONQUARANTINABLE DISEASES ENCOUNTERED ON VESSELS.

The following diseases were observed on vessels, other than quarantinable: Dysentery, 22 cases; diphtheria, 1; tuberculosis, 7; typhoid fever, 2; beriberi, 79; malarial fever, 24; wounded in battle, 271 (Russian sailors).

From the foregoing it will be seen that of the actual diseases encountered beriberi leads the list. The entire crew of one sail vessel, the *Minerva II*, was completely disabled. The vessel was bound from Saigon to Manila, and only reached port after several months spent on a voyage that is ordinarily accomplished in eight or nine days. It has become the practice of the Service to disinfect the living quarters of vessels on which beriberi is found upon arrival. The sick that have come under treatment were placed on a good nitrogenous diet, with tonics of iron, strychnine, etc. The results obtained have been fairly satisfactory.

Typhoid fever is a very rare disease in the Philippine Islands, and is believed to occur only in persons who have either just arrived from other countries or those who have partaken of some food that has been imported from countries in which the disease prevails, as, for instance, raw oysters. In view of the fact that this disease is one of the greatest scourges of civilization, and at the present time the islands are entirely free from it, the question should be seriously considered as to whether it would not be desirable to place typhoid fever upon the list of quarantinable diseases.

## AID TO OTHER SERVICES.

1. *Board of marine examiners.*—During the year there were 795 physical examinations made of masters, mates, engineers, pilots, and other ships' officers, in accordance with section 3 of act 780 of the Philippine Commission, which states that applicants must be physically sound. These examinations are fairly rigid and compare in scope to

those made of applicants for the United States Life-Saving or Revenue-Cutter Service. There were 83 rejections.

2. *Immigration service*.—There were inspected 3,461 immigrants. Two hundred and eighty-three were certified for rejection.

3. *Board of health*.—Vessels were disinfected upon their request on account of having had rinderpest or other cattle diseases aboard.

4. *Bureau of education*.—Cadets of the nautical school were given a physical examination in order to determine whether they would make fit candidates for positions in the merchant marine.

5. *Bureau of coast guard and transportation*.—Officers and sailors were physically examined to determine their fitness for positions on coast-guard vessels.

6. *Bureau of Coast and Geodetic Survey*.—Two boards of Service officers were convened for the purpose of examining sick officers of the Coast and Geodetic Service, with a view to making recommendations regarding their treatment.

7. *The Philippine civil-service board*.—Special physical examinations were made at its request of candidates whose physical status was doubtful. Examination papers were also examined and marked whenever requested.

8. *Panama Canal Zone*.—Three vaccination certificates were issued to persons bound for that place.

#### FLOATING EQUIPMENT.

The floating equipment of the Service has been maintained in a high state of efficiency.

It is estimated that the launch at Manila steams at least 50 miles each day. In view of the fact that a launch is needed every day, at all hours, Sundays and holidays included, there is not sufficient time for repairs, and it is deemed to be more economical to have two launches. The only extra crew required is 1 fireman and 1 sailor, at \$10 and \$17.50 per month, respectively. In accordance with the foregoing, a launch, appropriation for which was mentioned in the last annual report, was secured during the year and placed in commission at Manila.

The launch was built in Manila, directly under the supervision of this office, and cost \$3,985.50.

#### INTERISLAND QUARANTINE.

Early in the fiscal year it was the intention to recommend that the quarantine inspection upon arrival of all interisland vessels be discontinued, but the great number of vessels that arrived at Manila with smallpox on board made the advisability of such action questionable. The inspection, however, was entirely discontinued at all ports except Manila, Iloilo, and Cebu. At first sight an inspection at these ports only would probably appear somewhat inconsistent, but it should be remembered that nearly all interisland vessels visit at least one of the above ports practically every trip they make, and, furthermore, when it is considered that the inspection is made principally for the purpose of maintaining the vessels in a good sanitary condition, the matter assumes a new aspect. At the present time the status of the in-

terisland shipping is such that unless the quarantine service looked after their sanitary condition no one else would. In spite of constant supervision the sanitary condition of the interisland vessels is not all that could be desired. If no official inspection were made their condition could well be imagined, especially by those who have had experience with the crews of interisland vessels.

In March, 1905, the governor-general appointed a committee composed of Major-General Corbin, of the United States Army; W. Cameron Forbes, member of the Commission and secretary of commerce and police, and H. B. McCoy, deputy collector of customs. This committee had for its object the study of the condition of the interisland shipping, and especially to recommend legislation with a view to lessening the restrictions. The undersigned was invited to appear before the committee, and at the conference the reasons for continuing the quarantine inspection were fully explained. The committee concurred in the necessity for inspection for the present, at least. It was pointed out that the Government was about to enter into a contract for carrying Government passengers and freight, and it was suggested that a rigid clause with regard to the sanitary condition of vessels be inserted in the contract. If these were properly enforced it was thought, unless there was an epidemic actually present, that the inspection might be discontinued.

After further discussion it was agreed that the issuance of bills of health for interisland vessels might be discontinued. The following circular letter was then issued:

[Circular letter.]

UNITED STATES TREASURY DEPARTMENT,  
PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF THE CHIEF QUARANTINE OFFICER  
FOR THE PHILIPPINE ISLANDS,  
Manila, P. I., April 26, 1905.

*To the owners, agents, and masters of vessels, and others concerned.*

SIRs: After May 15, 1905, it will not be necessary for masters of vessels commencing a voyage from one port in the Philippine Islands to another port in the Philippine Islands to obtain the bill of health issued by the officers of this Service which heretofore has been required.

Respectfully,

VICTOR G. HEISER,  
*Passed Assistant Surgeon,*  
*Chief Quarantine Officer for the Philippine Islands.*

If the sanitary condition of the islands continues to improve and provision is made for maintaining the vessels in a good sanitary condition there is no reason why quarantine inspection on arrival of interisland craft should not be confined to those vessels which actually have sickness aboard.

#### SERVICE LABORATORY AT MANILA.

The equipment for the laboratory, which was ordered through the Bureau, arrived early in the fiscal year. The space in the building at 78 Calle Madrid, which was formerly used as an office by the Service, was fitted up for laboratory use. It was of great assistance in properly carrying out the quarantine work, and as an aid in making physical examinations of seamen and others it was almost indispensable. The laboratory was in charge of Passed Asst. Surg. J. D.

Long, whose detailed report of the work done follows. The amount of routine quarantine work to be done is so large and the officers so few that for weeks at a time the services of Passed Assistant Surgeon Long had to be utilized elsewhere, which naturally was much to the detriment of good laboratory work. The amount of laboratory material here is so great, especially that which would be valuable in the study of problems in connection with quarantinable diseases, the solution of any one of which would be among the greatest advances made in public work, that the Bureau should seriously consider the detail of a competent officer who could devote his entire time to original investigation.

#### CEBU QUARANTINE STATION.

Since the last annual report was made the difficulties with regard to the title of the land have been settled, and the construction of the station is about three-fourths completed.

The order setting aside the land for the use of the Service reads as follows:

EXECUTIVE ORDER, } THE GOVERNMENT OF THE PHILIPPINE ISLANDS,  
No. 43. } EXECUTIVE BUREAU,  
Manila, P. I., October 25, 1904.

Pursuant to the provisions of act numbered six hundred and forty-eight, Philippine Commission, entitled "An act authorizing the civil governor to reserve for civil public purposes, and from sale or settlement, any part of the public domain not appropriated by law for special public purposes until otherwise directed by law and extending the provisions of act numbered six hundred and twenty-seven, so that public lands desired to be reserved by the insular government for public purposes, or private lands desired to be purchased by the insular government for such uses, may be brought under the operation of the land-registration act," I hereby withdraw from settlement, entry, sale, or other disposition under the public land laws, as public land the island of Cavit, province of Cebu, and reserve the same for the use of the quarantine service and the Marine-Hospital Service, and the chief quarantine officer for the Philippine Islands is hereby designated as custodian thereof.

LUKE E. WRIGHT, *Civil Governor.*

The station when complete will consist of the following structures:

1. Wharf and approach, at which vessels with a draft of up to 18 feet can come alongside at low tide.
2. Surgeon's residence, built on the bungalow type, with five rooms and a kitchen.
3. Disinfecting building, 20 by 60 feet, one story in height, will be divided into an infected and a noninfected end, a room to be used as an office, and one as a laboratory. The equipment will consist of one 16-foot Kinyoun-Francis steam chamber, with formaldehyde attachment, and a 40-horsepower horizontal boiler, autoclaves, bichloride pumps, etc.
4. Bath house, 40 by 13 feet, to be divided into three sets of compartments for cabin passengers and 14 individual bathrooms for steerage passengers.
5. Steerage barracks, one story, bungalow type, 70 by 36 feet, will be divided into a dormitory for males, with 74 berths, and a dormitory for females, with 6 berths. Ample toilet facilities are provided for. If more segregation is desired, tents can be used.
6. Cabin passengers' barracks, one-story building, 50 by 24 feet, to be divided into 8 bedrooms, each of which will be large enough for 2 beds.

7. Attendants' quarters, one-story building, 32 by 22 feet, to be divided into 4 rooms.

8. Hospital will consist of 3 isolated pavilions, 12 by 12 feet, with cement floors.

9. Fences will be constructed of barbed wire.

10. Water and sewer system. It is expected to obtain water from an artesian well which will be drilled upon the station. A windmill with a capacity of pumping 1,000 gallons per hour to a distributing tank placed 20 feet above the ground will be installed. Running water and a sewer will be provided for all buildings.

(For complete detailed description of the station, see special report submitted to the Bureau under date of March 10, 1905.)

#### EXPENDITURES.

At the close of the last fiscal year all unexpended balances, with the exception of the appropriations for new construction and permanent repairs, reverted to the treasury, in amount, \$11,015.47.

The amount received from all sources in the fiscal year 1905, including appropriations and refunds, amounted to \$76,603.50. The total expenditures authorized during the same period were \$71,246.49, leaving a balance at the end of the year of \$5,357.01, which will revert to the treasury. These amounts are, perhaps, not absolutely accurate, because the exact amount of some of the bills contracted during the latter part of the fiscal year are not yet known.

These expenditures included all running expenses and improvements and repairs, as well as the \$6,000, which was set aside until used for repairs to the buildings and wharf at the Mariveles quarantine station, and the extension of the water system. A detailed financial statement is appended.

#### LABORATORY.

U. S. TREASURY DEPARTMENT,  
PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF THE CHIEF QUARANTINE OFFICER  
FOR THE PHILIPPINE ISLANDS,  
Manila, P. I., June 30, 1905.

SIR: I have the honor to submit the following report of work done in the laboratory of the Service at this port since its opening, in November, 1904:

Since the opening of the laboratory I have been detailed on other work as follows, and while so detailed was unable to continue work in the laboratory: From December 20, 1904, to February 6, 1905, on leave seven days and in charge of office during absence of chief quarantine officer; two weeks during February, 1905, on special duty at Mariveles; April 6, 1905, to present time, on boarding duty, being examined for promotion, and other duties.

The work done was as follows:

1. Examination of water from Mariveles quarantine station for amœbæ.

Specimens of water from the system of the Mariveles quarantine station were collected in sterile bottles, brought to the laboratory, transferred to sterile flasks, and 1/3 c. c. of ordinary bouillon added to each 100 c. c. of water to be examined, allowed to stand at room temperature and slides made from the upper layers of the liquid; examined microscopically; actively motile amœbæ were found in all the specimens. This experiment was repeated a number of times, the greatest care being taken to prevent the introduction of contaminating materials from the outside. Amœbæ were constantly found. Samples of Manila water were tested in the same manner at the same time. These also showed amœbæ without exception. An attempt at comparison was made between these two amœbæ, but nothing of value could be found. Transplants

were made from the flasks to agar-agar prepared according to Musgrave's formula and colonies obtained in from twenty-four to thirty-six hours. The colonies showed great numbers of motile amœbæ, accompanied by bacteria. The amœbæ reproduced by fission.

2. Experiments to determine the effect of copper sulphate, zinc sulphate, and potassium permanganate on amœbæ, bacteria, and infusoria.

Measured quantities of Manila and Mariveles water were taken and sufficient of each of the three substances added to each flask to make dilutions of 1 to 1,000,000, 1 to 700,000, 1 to 500,000, 1 to 250,000, and 1 to 100,000. Ordinary bouillon was then added in quantities of 1/3 c. c. to each flask and allowed to remain at room temperature. Controls were also made to which bouillon alone had been added. Dilutions of copper sulphate 1 to 1,000,000 showed slight if any reduction in numbers in either amœbæ, bacteria, or infusoria, as compared with the controls. Dilutions of 1 to 700,000 did show some diminution, particularly in the infusoria, though some were still present. In 1 to 500,000 dilutions occasional infusoria could still be seen; also amœbæ and bacteria, but diminished in numbers. In the dilutions stronger than 1 to 500,000 no infusoria were found, though amœbæ and bacteria were present in all, in the two stronger solutions being so diminished in numbers that several fields had to be examined to discover one amœbæ.

The zinc sulphate caused a flocculent precipitate and was apparently of little value. The permanganate was rapidly decolorized, and was also of no value.

The copper solutions showed some precipitate, but not nearly so much as the others.

Dilutions were then made of the copper, zinc, and potassium salts in the same strengths in sterile distilled water and inoculated with amœbæ, and bouillon added to determine whether or not growths could be obtained. The result gave growths in all the solutions. The conclusion drawn was that the above salts were of no value against amœbæ, except in solutions too strong to allow of the use of the water for drinking or cooking without risk.

3. Experiments to determine the viability of cholera on fresh vegetables.

In these experiments cabbage, celery, and some greens similar to lettuce were used.

The vegetables were cleaned of dried leaves, rotten parts, etc., and placed in sterile glass dishes. Cultures of cholera in bouillon were then poured over them, and some allowed to stand at room temperature, others placed in the refrigerator. Daily inoculations from these were then made in Dunham's solution, incubated for eight hours, and stained slides, motility, and indol-producing power observed. Plates were also made when possible. Cholera organisms were recovered daily for five days in all instances except one. In this instance the organism was recovered from cabbage after six days. This was the only instance in which the organism lasted over five days. The results were the same, without regard to the temperature at which the vegetables were kept, as far as the bacteria were concerned, though those kept at room temperature had almost entirely decayed, those kept on ice being fairly well preserved. The organism lived for six days on cabbage.

4. Experiments were also made to determine some method of destroying the eggs of cockroaches that might be used to destroy these vermin in ships. They were exposed to sulphur fumes; fumes of formaldehyde; dipped in bichloride solutions 1 to 100; sodium hydrate, 1 to 100, for five seconds; held for two seconds in water at 50° C.; bichloride, 1 to 100, at 50° C.; sodium hydrate, 1 to 100, at 50° C.; thoroughly washed in a strong solution of ordinary lime, then placed in containers at room temperature to await developments. About the same number of eggs that had been exposed to the various methods of treatment outlined above hatched as did in the controls that had been submitted to no treatment whatever.

5. An attempt was also made to duplicate the work of Capt. E. R. Rost, I. M. S., of Rangoon, in the cultivation of the lepra bacillus, but without success. A number of other methods were also tried, but with the same result.

6. In addition to the above a number of examinations were made at the request of the chief quarantine officer, or other officers of the Service, of feces, urine, blood, sputum, etc. The results of these examinations were reported to the officer requesting the examination, and appear in the record of medical inspections of seamen.

In spite of the utmost care great difficulty was experienced in keeping media sterile, as molds would get in in spite of all precautions. This is the experience of most men doing laboratory work in the Philippines, I believe.

As all of the media used had to be made by myself the work was necessarily slow.

Respectfully,

J. D. LONG,  
*Assistant Surgeon.*

The CHIEF QUARANTINE OFFICE FOR THE PHILIPPINE ISLANDS,  
*Manila, P. I.*

#### INTERISLAND TRAFFIC.

[Circular letter.]

U. S. TREASURY DEPARTMENT,  
PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF THE CHIEF QUARANTINE OFFICER  
FOR THE PHILIPPINE ISLANDS,  
*Manila, P. I., October 25, 1904.*

*United States quarantine officers and others concerned:*

SIR: I have to inclose herewith a copy of a letter sent this day to the chief quartermaster, Philippines Division, with regard to the inspection of certain interisland transports. You will act in accordance with the provisions embraced therein.

Respectfully,

VICTOR G. HEISER,  
*Passed Assistant Surgeon,*  
*Chief Quarantine Officer for the Philippine Islands.*

[Inclosure.]

U. S. TREASURY DEPARTMENT,  
PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF THE CHIEF QUARANTINE OFFICER  
FOR THE PHILIPPINE ISLANDS,  
*Manila, P. I., October 25, 1904.*

SIR: Owing to the favorable sanitary reports which have been received during the past month with regard to the quarantinable diseases in the Philippine Islands, I have the honor to state that it will be no longer necessary for the interisland army transports, which carry as part of their personnel army medical officers, to procure bills of health at ports of departure or to await quarantine inspection at ports of arrival unless there is sickness aboard, in which event inspection by the quarantine officer should be awaited as in the past.

Respectfully,

VICTOR G. HEISER,  
*Passed Assistant Surgeon,*  
*Chief Quarantine Officer for the Philippine Islands.*

The CHIEF QUARTERMASTER,  
PHILIPPINES DIVISION, U. S. ARMY,  
*Manila, P. I.*

(This regulation also applies to the cutters of the United States Coast and Geodetic Survey.)

[Circular letter.]

U. S. TREASURY DEPARTMENT,  
PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF THE CHIEF QUARANTINE OFFICER  
FOR THE PHILIPPINE ISLANDS,  
*Manila, P. I., April 25, 1905.*

*To the owners, agents, and masters of vessels and others concerned.*

SIRS: After May 15, 1905, it will not be necessary for masters of vessels commencing a voyage from one port in the Philippine Islands to another port in the Philippine Islands to obtain the bill of health issued by the officers of this Service which heretofore has been required.

Respectfully,

VICTOR G. HEISER,  
*Passed Assistant Surgeon,*  
*Chief Quarantine Officer for the Philippine Islands.*



[Circular letter.]

U. S. TREASURY DEPARTMENT,  
PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF THE CHIEF QUARANTINE OFFICER  
FOR THE PHILIPPINE ISLANDS,  
Manila, P. I., April 29, 1905.

*Quarantine officers, collectors of customs, and others concerned.*

SIRS: I have to inclose herewith a circular issued by this office April 26, 1905, which discontinues the issuance by this Service of bills of health to vessels commencing a voyage from one port in the Philippine Islands to another port in the Philippine Islands. You are requested to make the provisions of this circular effective at your port from the date mentioned, and to give said order the necessary publicity.

Respectfully,

VICTOR G. HEISER,  
Passed Assistant Surgeon,  
Chief Quarantine Officer for the Philippine Islands.

TREATMENT OF VESSELS FROM AMOY.

[Circular letter.]

U. S. TREASURY DEPARTMENT,  
PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF THE CHIEF QUARANTINE OFFICER  
FOR THE PHILIPPINE ISLANDS,  
Manila, P. I., May 16, 1905.

*Medical officer in command, ———, P. I.*

SIR: I have to inclose herewith for your information copy of a letter sent to the United States consul at Amoy. You are directed to treat vessels from that port in accordance with the requirements contained therein.

Respectfully,

VICTOR G. HEISER,  
Passed Assistant Surgeon,  
Chief Quarantine Officer for the Philippine Islands.

[Inclosure.]

U. S. TREASURY DEPARTMENT,  
PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF THE CHIEF QUARANTINE OFFICER  
FOR THE PHILIPPINE ISLANDS,  
Manila, P. I., May 16, 1905.

*The American consul, Amoy, China.*

SIR: In view of the fact that the number of cases of plague is rapidly increasing in and about Amoy, I have to state that hereafter vessels entering ports of the Philippine Islands from Amoy, which carry steerage passengers or passengers who ordinarily travel as such, will have to undergo a detention of seven days, which is to date from the time disinfection of the vessel is completed in the Philippines. If, however, you could make arrangements to quarantine the passengers who ordinarily take steerage accommodations at Amoy for the period of seven days, and such passengers are accompanied by a certificate from you to the effect that they have undergone such detention, and that no quarantinable disease has made its appearance among them, the vessel bringing such passengers will only be subjected to the usual disinfection before being granted pratique.

Respectfully,

VICTOR G. HEISER,  
Passed Assistant Surgeon,  
Chief Quarantine Officer for the Philippine Islands.

## VACCINATION CERTIFICATES.

[Circular letter.]

U. S. TREASURY DEPARTMENT,  
PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF THE CHIEF QUARANTINE OFFICER  
FOR THE PHILIPPINE ISLANDS,  
Manila, P. I., June 15, 1905.

*To the masters, owners, and agents of vessels and others concerned.*

SIRS: Your attention is called to the fact that during the past four years the quarantine service has endeavored to vaccinate the crews of all vessels plying between ports of the Philippine Islands.

In order to lessen the liability of smallpox occurring among the crews on vessels and to reduce to a minimum the necessity for placing crews in quarantine when smallpox is detected, this office asks your cooperation to the end that no new members of crews be employed who do not possess blue cards issued by this Service. When any person applies for a position aboard your vessels he should be required to show a quarantine service blue vaccination card. If he does not have one he should be sent to this office at once to be vaccinated before allowing him to go aboard. By giving us your assistance in this matter commerce will be facilitated, your interests will be benefited, and the necessity for quarantining your vessels on account of unprotected members of the crew will be avoided.

Respectfully,

VICTOR G. HEISER,  
Passed Assistant Surgeon,  
Chief Quarantine Officer for the Philippine Islands.

The quarantinable diseases in Manila during the fiscal year 1905 were: Smallpox, 39 cases and 12 deaths; plague, 51 cases and 48 deaths.

Report of the patients treated in the pest hospital at the Mariveles quarantine station during the fiscal year ended June 30, 1905, shows there were 19 cases of smallpox, the patients all being Filipinos, 1 of whom died. This patient had smallpox and dysentery; died from dysentery.

*Report of the patients with nonquarantinable diseases treated at the Mariveles quarantine station during the fiscal year ended June 30, 1905.*

Disease.	Number of cases.	Nationality.		Result.		
		Filipinos.	Americans.	Improved.	Recovered.	Died.
Typhoid fever .....	1	-----	1	(a)	-----	-----
Dysentery, chronic .....	26	26	-----	17	-----	9
Beriberi .....	14	14	-----	8	1	5
Tubercle of lungs .....	5	5	-----	3	-----	2
Rheumatism, chronic .....	1	1	-----	1	-----	-----
Insanity, delusional .....	1	1	-----	1	-----	-----
Gunshot wound and fracture .....	1	1	-----	1	-----	-----
Total .....	49	48	1	31	1	16

<sup>a</sup> Remaining in station hospital at close of year.

*Incoming quarantine transactions at the port of Manila, P. I., for the fiscal year ended June 30, 1905.*

Month.	Vessels inspected from—		Vessels in quarantine.	Vessels disinfect.	Bills of health issued.	Baggage disinfect.	Baggage inspected and passed.
	Foreign ports.	Domestic ports.					
1904.						Pieces.	Pieces.
July.....	49	174	2	18	253	722	52
August.....	52	188	-----	24	225	163	43
September.....	50	192	-----	23	274	-----	-----
October.....	52	247	2	25	300	3,204	-----
November.....	66	223	4	28	275	3,527	-----
December.....	46	231	-----	23	307	1,248	-----
1905.							
January.....	50	237	3	24	282	1,677	-----
February.....	51	256	5	19	269	1,746	-----
March.....	42	207	4	42	387	4,681	-----
April.....	48	281	4	30	319	3,339	-----
May.....	70	296	8	23	190	2,848	-----
June.....	52	207	5	18	57	4,657	-----
Total.....	628	2,739	32	297	3,168	27,812	95

Month.	Crew inspected.	Passengers inspected.		Persons vaccinated.		Persons bathed and effects disinfected.	Persons quarantined (suspects).
		Cabin.	Steerage.	Crew.	Passengers.		
1904.							
July.....	9,271	1,325	4,101	608	80	380	97
August.....	9,421	1,190	4,014	494	59	167	-----
September.....	9,338	1,128	3,722	444	1	-----	-----
October.....	11,250	1,725	6,269	782	152	1,156	155
November.....	12,214	1,376	6,080	745	23	1,287	80
December.....	9,843	1,394	5,948	548	60	406	-----
1905.							
January.....	11,117	1,210	6,898	609	191	561	177
February.....	10,358	1,025	4,775	1,797	42	791	867
March.....	10,238	1,566	9,002	797	55	1,585	90
April.....	11,551	1,543	5,652	898	15	1,358	164
May.....	12,596	1,675	7,571	806	144	944	381
June.....	11,617	1,632	7,420	845	1,382	1,592	1,592
Total.....	128,814	16,787	71,197	9,808	2,204	10,207	3,588

*Outgoing quarantine transactions at the port of Manila, P. I., for the fiscal year ended June 30, 1905.*

Month.	Vessels inspected.	Vessels disinfect.	Baggage disinfect.	Baggage inspected and passed.	Crew (outgoing) inspected.	Passengers (outgoing) inspected.	Persons vaccinated.	Bathed and clothing disinfected.
1904.			Pieces.	Pieces.				
July.....	6	4	1,862	1,167	395	495	-----	482
August.....	8	8	947	1,846	412	507	24	506
September.....	6	6	732	1,006	528	544	-----	543
October.....	10	8	1,212	942	521	656	-----	662
November.....	5	3	1,946	961	305	671	-----	742
December.....	9	4	1,923	2,078	535	1,081	43	1,123
1905.								
January.....	5	4	1,926	2,449	443	1,028	144	1,187
February.....	4	3	1,483	2,017	271	799	46	825
March.....	8	7	2,730	3,827	825	1,370	94	1,326
April.....	7	3	1,861	3,213	444	1,050	50	923
May.....	12	6	2,521	2,514	455	1,320	-----	1,340
June.....	3	1	2,304	2,206	286	1,240	1,401	1,232
Total.....	83	57	21,447	24,226	5,405	10,761	1,742	10,896

## CEBU.

U. S. TREASURY DEPARTMENT,  
PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF THE UNITED STATES QUARANTINE OFFICER,  
*Cebu, P. I., July 1, 1905.*

SIR: I have the honor to make the following report on the transactions at this station for the year ended June 30, 1905:

From the standpoint of the maritime quarantine officer the year has been rather an uneventful one; very little sickness has been treated in quarantine, and no quarantinable diseases have been brought in from a foreign port.

## CHOLERA.

This disease is a thing of the past, and it would seem that by enforcing the present regulations concerning the importation of green vegetables and attention to the water supply of a vessel from a cholera-infected port the danger of the disease being introduced into these islands again is very remote.

In the island of Cebu and near-by places rumors of cholera have come from time to time, but upon investigation they have always proved false, the real condition being a ptomaine poisoning. When it is considered that the natives eat a great deal of fish, which is quite frequently in a more or less advanced stage of decomposition, it is not surprising that one should meet occasionally with fatal cases of ptomaine poisoning.

## PLAGUE.

But one case of plague was found on a vessel. This was in the person of a Moro on a small schooner from Jolo, P. I. This schooner had been in Cebu harbor one week, and as the crew had been ashore the infection was undoubtedly contracted in this port. It was of the pneumonic variety, and the patient succumbed in a few days. When first seen he had a temperature of 39° C., dyspnoea, physical signs of pneumonia, and great prostration.

Occasional cases of plague are being reported from Cebu. It is simply a continuation of the infection which was introduced here some years ago and has never been stamped out. This subject was taken up more fully in the report for the year ended June 30, 1904.

This year there has been a noticeable increased mortality among rats. This was first brought to my notice when rats commenced to die in three houses immediately adjoining each other. It was thought at first, as the mortality seemed to be limited to this small area, that the rats had been poisoned, but about thirty days afterwards a case of plague was removed from one of these houses, and since then the increased mortality among rats has been more widespread.

We are at present in as good a position to have an epidemic of plague in the city as we ever have been. The infection is well scattered, and the city, with its houses and people, is in a very insanitary state. But it is doubtful whether it is possible for this country to have bad epidemics of plague such as are experienced in India and China. It is a tropical country, where houses are never closed, and are built elevated from the ground, mainly of nipa and bamboo (frame, roof, walls, and floors), and ventilation is therefore very good. Overcrowding and filth are, so to speak, neutralized by the free access of air.

The local authorities have been helpless so far in that they have had no funds with which to work; but recently the city appropriated ₱2,000, which will be used by the provincial officer of health to try and stamp out the infection by destroying rats and a general cleaning up of the city.

There have been altogether this year 20 cases of plague, with 19 deaths, in Cebu, or, including the case on the schooner in the bay, 21 cases and 20 deaths.

## SMALLPOX.

In the month of November, 1904, a coast-guard cutter arrived from Cagayan, Mindanao, P. I., with 8 smallpox patients aboard. Three of these were convalescent, while 5 were still in the scabbing stage, 3 having some fever. This is the only vessel that we have had this year with smallpox, and this would never have occurred if the patients had not been sent away from the hospital in which they were treated long before they were ready to be discharged. The vessel, crew, and passengers were treated in the usual way.

It is pleasing to note that smallpox is steadily decreasing in the province, thanks to the efficiency of vaccination as practiced by the vaccinators of the insular board of health.

In the city of Cebu there have been but 4 cases of smallpox reported during the entire year.

#### GENERAL HEALTH CONDITIONS IN CEBU.

This city, notwithstanding the fact that there is no sewerage system and no water supply except for numbers of superficial wells, is a very healthy one. It has its share of beriberi, skin diseases, diseases of the gastro-intestinal system, nervous system, etc., and it may be said more than its allowance of venereal diseases. Dysentery, not of the amoebic variety, is present, but the amoebic variety of the disease, except for imported cases, is rare.

Malarial fevers are not as prevalent as in some other parts of the province. In fact, the *Anopheles* mosquito is not common. The varieties *Culex* and *Stegomyia* are in great abundance. I believe that if all the superficial wells in the city were kept covered and the few open drains done away with the number of mosquitoes in the city of Cebu would decrease 75 per cent.

#### VACCINATIONS.

During the year there have been 3,242 vaccinations made upon sailors, mostly sailors of the small craft known as "bancas" or "paraos." Of these there is only a record of 77 takes. This is not because of poor vaccine, but because of frequent changes in the crews of these small vessels, which of course prevents one from seeing many of them a second time. The good results obtained by the board of health vaccinators are readily seen, when it is stated that they get from 50 to 75 per cent takes, and, as we use the same vaccine, it may be assumed that we get the same results.

In this connection I wish to extend my thanks to Dr. Arlington Pond, of the insular board of health, who kindly detailed one of his vaccinators to vaccinate sailors entering this port.

#### FUMIGATION.

The fumigation of the small vessels registered in this port has been practiced twice during the year, there having been 32 vessels fumigated to kill vermin, or, including the quarantine launch *Sanidad* and the disinfecting barge *Proteccion*, 34 vessels were fumigated. This figure also includes the fumigation of a few larger vessels from plague-infected ports or bound to the United States.

It is very rarely possible to fumigate vessels that arrive here from Hongkong or Singapore, as it is usually their first port of call and they always have much cargo for Iloilo and Manila, and the fumigation of a vessel with cargo is very unsatisfactory—in fact, useless.

It may be noted that while the first fumigation of vessels hailing from this port showed in most cases many rats, mice, roaches, etc., subsequent fumigations disclosed the presence of very few or none of these vermin.

#### DISINFECTION.

During the year there have been 4 vessels disinfected, in whole or in part, for disease, as follows: One for smallpox, 1 for plague, and 2 for leprosy. The first two after disinfection were held fourteen days and seven days, respectively, but no further cases developed. The vessels which had leprosy were not detained, the cases being taken off and the infected staterooms disinfected.

#### AUTOPSIES.

But 1 autopsy was held during the year and that on the case of plague which died on a schooner in the bay and which has already been mentioned. The autopsy was performed by Assistant Surgeon Long, who was in temporary charge during the absence in Manila of the regular quarantine officer.

The autopsy findings were as follows: "The peculiar postmortem lividity seen in persons dead of plague was marked. The cavities were full of serum and the lower lobe of the right lung was much congested and there were spots of consolidation throughout the substance. Small hemorrhages were plentiful in the pericardium, the pleura, and the peritoneal covering of the liver. The liver and spleen were much enlarged and congested, as were the lymphatic glands."

## CIRCULAR LETTERS AND INSPECTIONS.

Except for the slight modification of quarantine applying in this port (letter of April 1, 1905), the exemption of vessels from the necessity of securing bills of health (letter of April 26, 1905) and the exemption of army transports carrying medical officers from undergoing quarantine inspection, it will be seen that the same regulations are in force in regard to the inspection of interisland vessels as were instituted in cholera times. Now, inasmuch as cholera is unknown in the islands at the present time, and that there is no disease present in epidemic form, it seems to me in this port at least a great hardship on these small local vessels to make them undergo practically the same inspection as was required when there was a severe epidemic of cholera throughout the Philippine Islands, and I would respectfully recommend that all vessels plying between ports in the Philippine Islands be exempt from quarantine inspection unless such vessels have sickness aboard at the time of entering port or during the voyage. An occasional inspection of the vessels, either at the time of arrival or some time during their stay in port, would enable one to keep informed as to their sanitary state, and this, with an occasional fumigation to destroy vermin, would, in this port at least, be all that is necessary. I would also respectfully suggest that the proper clause providing for fines in the event of a vessel entering with sickness and not awaiting inspection or not keeping in good sanitary condition be inserted in the harbor regulations of the port.

During the year there have been 16 vessels cleared for ports in the United States. These vessels, with their crews and cargo manifests, have been inspected aboard just prior to departure. Bills of health are issued to the vessels after this inspection has taken place. Where the vessel has not already been fumigated in her first port, fumigation is done here. Usually, this being her second port in the Philippines, fumigation has already been done.

During the year there have been 67 examinations of applicants for licenses as ships' officers. Certificates issued by this office are not valid until they have been approved by the chief quarantine officer.

Respectfully,

CARROLL FOX,

*Passed Assistant Surgeon.*

The CHIEF QUARANTINE OFFICER FOR THE PHILIPPINE ISLANDS.

[Inclosure—Circular letter.]

U. S. PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF THE UNITED STATES QUARANTINE OFFICER,  
Cebu, P. I., April 1, 1905.

*To steamship companies, owners, and agents of vessels, and others:*

You are hereby informed that hereafter all vessels plying between the port of Cebu and other ports on the island of Cebu will not be required to obtain a bill of health and will not be required to await quarantine inspection upon entering this port; provided that when such vessel arrives with sickness aboard, or has had sickness aboard during the voyage, she will fly the yellow flag and await quarantine inspection, as in the past.

Also, when a vessel leaves this port one day and returns the next immediately following she will not be required to obtain a bill of health or await quarantine inspection. If, however, such vessel arrives with sickness aboard she will be subject to inspection as heretofore.

By direction of the chief quarantine officer for the Philippine Islands.

Respectfully,

CARROLL FOX,

*Passed Assistant Surgeon, Quarantine Officer for the Port of Cebu.*

[Inclosure—Circular letter.]

U. S. PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF THE UNITED STATES QUARANTINE OFFICER,  
Cebu, P. I., April 26, 1905.

*To the owners, agents, and masters of vessels, and others concerned:*

After May 15, 1905, it will not be necessary for masters of vessels commencing a voyage from one port in the Philippine Islands to another port in the Philip-

pine Islands to obtain the bill of health issued by the officers of this Service which heretofore has been required.

By direction of the chief quarantine officer for the Philippine Islands.

Respectfully,

CARROLL FOX,

*Passed Assistant Surgeon, Quarantine Officer for the Port of Cebu.*

*Incoming quarantine transactions at the port of Cebu, P. I., for the fiscal year ended June 30, 1905.*

Month.	Vessels in- spected from—		Vessels in quar- antine.	Vessels disin- fected.	Bills of health is- sued.	Baggage disin- fected.	Crews inspected.	Passengers in- spected.		Persons held in quarantine.	Persons bathed and effects dis- infected.	Crews and pas- sengers vacci- nated.
	Foreign ports.	Domestic ports.						Cabin.	Steerage.			
1904.						<i>Pcs.</i>						
July	9	412		8	145		5,697	298	1,984			189
August	5	343	2	6	150	32	5,498	250	1,323	10	10	82
September	10	351		5	157		5,636	262	1,745			
October	7	350			162		5,584	296	1,973			124
November	7	329	1	1	106	130	4,539	248	1,655	55	47	182
December	9	340		1	127		4,791	214	1,788			318
1905.												
January	6	441		9	139		5,613	201	2,450			
February	8	414		5	111		5,262	159	1,708			
March	7	614		2	156		7,443	263	2,200			
April	13	382			144		6,160	247	1,534			314
May	10	377			84		6,023	218	1,235			1,396
June	8	344			9		5,772	225	1,704			752
Total	99	4,697	3	37	1,489	171	67,958	2,821	21,290	65	57	3,242

#### ILOILO.

UNITED STATES TREASURY DEPARTMENT,  
PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF UNITED STATES QUARANTINE OFFICER,  
*Iloilo, P. I., June 30, 1905.*

SIR: I have the honor to render the following report of quarantine transactions at this port for the year ending June 30, 1905.

All vessels entering this port are inspected, except those from near-by ports.

Several vessels have been treated on account of smallpox; the cases were isolated on our disinfecting barge *Esmeralda*; the contacts were held on the vessel on which they arrived after disinfection. Two vessels were remanded to Manila by direction of the chief quarantine officer; one developed a second case en route to that port.

One case of leprosy was excluded under the immigration laws. The room occupied by the patient was disinfected and the leper was isolated on board for the return trip.

No other quarantinable diseases have been encountered during the year.

The only disinfection done has been that required by the above-mentioned diseases.

For the purpose of destroying vermin, interisland and foreign vessels, whenever practicable, have been fumigated with sulphur dioxide. We have endeavored to do this at least twice during the year in the case of each vessel.

Thousands of persons have been vaccinated, but the virus used has failed to give any reasonable percentage of "takes." The best that we have ordinarily been able to get is a strawberry excrescence. Making due allowance for revaccinations and persons naturally immune, I am convinced that the virus has been for the most part inert.

So far as quarantinable disease is concerned, this city and the island of Panay have remained clean except for one case of smallpox reported from the pueblo of Sara. In this case the diagnosis may be doubted. During the year the island of Negros has had some smallpox, but there has been no serious epidemic. At

present the disease has practically disappeared. Many cases of chicken pox have occurred in this city. Some of them strikingly resemble smallpox. I have seen men with large experience with both diseases in doubt about a given case. Leprosy is common enough in the outlying parts of the city. No attempt at isolation is made.

In November and December, 1904, a very widespread and fatal epidemic of what was called malarial fever prevailed in the interior of Panay. None of the cases was seen by physicians, there being none in the interior, so that I do not know if the popular diagnosis was correct.

At a time when so much is being written about ankylostomiasis it may be of interest to note that it is a very common disease in this vicinity. A few very severe infections are seen, many mild ones, but in the majority of cases the parasite seems to cause no inconvenience.

Malaria, dysentery, and beriberi are, of course, always with us. A disease locally called "eclampsia" is at certain seasons the cause of a very heavy mortality among infants. I have been unable to learn anything about the pathology of the malady.

Respectfully,

GEORGE W. MCCOY,  
Assistant Surgeon.

The CHIEF QUARANTINE OFFICER FOR THE PHILIPPINE ISLANDS.

*Incoming quarantine transactions at the port of Iloilo, P. I., for the fiscal year ended June 30, 1905.*

Month.	Vessels in- spected from—		Vessels in quar- antine.	Vessels disinfect- ed.	Bills of health is- sued.	Baggage disin- fected.	Crew in- spected.	Passengers inspected.		Persons held in quarantine.	Persons bathed and effects dis- infected.	Crew and passen- gers vaccinated.
	Foreign ports.	Domestic ports.						Cabin.	Steerage.			
1904.						<i>Pieces.</i>						
July .....	6	141	2	6	152	.....	2,953	279	1,338	76	.....	188
August .....	10	131	.....	4	127	.....	3,344	300	1,071	1	.....	121
September .....	7	140	.....	7	125	.....	3,202	243	1,232	117	.....	248
October .....	6	146	1	3	154	132	3,664	299	1,621	44	44	484
November .....	6	128	1	5	129	61	2,797	231	1,310	20	20	138
December .....	6	105	.....	11	97	.....	2,479	228	1,408	.....	.....	217
1905.												
January .....	4	107	1	4	99	20	2,523	170	1,068	6	7	432
February .....	6	111	.....	4	113	.....	2,554	138	820	.....	.....	595
March .....	9	157	.....	4	153	.....	3,202	297	1,461	.....	.....	645
April .....	12	150	.....	.....	141	.....	3,166	314	1,292	.....	.....	620
May .....	4	181	.....	2	81	.....	3,417	260	1,081	.....	.....	272
June .....	7	119	.....	2	7	.....	2,608	263	959	.....	.....	432
Total .....	83	1,616	5	52	1,378	213	85,844	3,022	14,671	264	71	4,387

#### ZAMBOANGA.

The quarantine inspection of vessels at the port of Zamboanga was taken more directly under Service control on September 1, 1904. Prior to that date the medical officers of the United States Army on duty at that port acted as quarantine officers without any compensation for the additional work.

The station was under the command of Acting Asst. Surg. Robert U. Patterson during the months of September to December, 1904, but during his temporary absence in the months of November and December Asst. Surg. Jesse R. Harris, U. S. Army, inspected such vessels as entered from foreign ports. On January 1, 1905, Acting Asst. Surg. M. A. W. Shockley assumed command of the Service and remained in command at the close of the fiscal year.



During the year 17 vessels arrived at this port directly from foreign ports. No quarantinable diseases were detected upon inspection. No disinfection or fumigation was done to foreign vessels. One domestic vessel was held to determine the cause of deaths aboard and disinfected and remanded to the Mariveles quarantine station for further treatment.

The expenditures for the operation of the station at Zamboanga during the fiscal year were \$160.

*Incoming quarantine transactions at the port of Zamboanga, P. I., for the fiscal year ended June 30, 1905.*

Month.	Vessels inspected from—		Crew in-spected.	Passengers in-spected.	
	Foreign ports.	Domestic ports.		Cabin.	Steerage.
1904.					
July.....					
August.....					
September.....					
October.....	2		120	8	125
November.....	1		60	18	
December.....	1		64	10	
1905.					
January.....	2	1	106	3	
February.....	1	1	51		
March.....	3		125	3	4
April.....	4		4	14	157
May.....	1		47	23	81
June.....	2		134	22	76
Total.....	17	2	711	101	443

#### JOLO.

The station at Jolo was under the command of Passed Asst. Surg. M. K. Gwyn from the beginning of the fiscal year until August 1, 1904, when he was relieved from duty at that port by Acting Asst. Surg. W. F. Lewis, who has had charge of the station during the remainder of the year.

The Service maintains at Jolo only an inspection station. Up to August 1, 1904, all vessels which arrived at the port of Jolo were required to await quarantine inspection and secure pratique before entering. After the date mentioned only those vessels which arrived directly from foreign ports were required to undergo quarantine inspection. During the year 16 vessels arrived from foreign ports and were inspected and granted pratique. No quarantinable diseases were detected upon arriving vessels, and for this reason no disinfection work was done or persons or vessels detained in quarantine. No vessels were remanded to the other stations of the Service for either disinfection or fumigation.

The sanitary situation in the city and island of Jolo has not materially changed during the year. Jolo has also shared in the improved conditions in the islands respecting quarantinable diseases.

From a commercial standpoint Jolo has shown a tendency toward an increase in the number of foreign vessels making Jolo a port of call. An endeavor to operate a line of steamers from Hongkong via Zamboanga and Jolo to North Borneo ports is now being made.

This increase of traffic will naturally bring Jolo in closer touch with the centers of the Orient, where quarantinable diseases are almost constantly present; will increase the liability of infected vessels arriving at this port, and also from a quarantine viewpoint will constitute an added menace to the public health of the islands.

During the year cholera was reported to be epidemic in portions of Borneo, but fortunately, although the disease was said to be severe at places, it did not seem to spread with the usual rapidity with which cholera travels. No cases were reported at any of the Borneo ports from which vessels which arrived at Jolo had departed.

The entire expense of operating this station during the fiscal year, including salaries, fees to acting assistant surgeon, transportation, etc., was \$473.86.

During the coming year the fees paid the quarantine officer and the purchase of blanks and stationery will be all the expenses the Service will have at this port. Transportation to and from the arriving foreign vessels will be secured by the officer in charge without expense to the Service.

The work of the Service was conducted very satisfactorily during the year.

*Incoming quarantine transactions at the port of Jolo, P. I., for the fiscal year ended June 30, 1905.*

Month.	Vessels inspected from—		Bills of health issued.	Crews inspected.	Passengers inspected.	
	Foreign ports.	Domestic ports.			Cabin.	Steerage.
1904.						
July .....	1	35	34	887	107	428
August .....	2	5		207	3	40
September .....	1			60		41
October .....	1			58		
November .....	1			60	41	
December .....	1			64	1	21
1905.						
January .....						
February .....	1			65	2	28
March .....						
April .....	3			207	16	89
May .....	2			116	5	27
June .....	3			160	12	28
Total .....	16	40	34	1,865	187	652

**SUMMARY—ALL PORTS.**

*Grand summary of the quarantine transactions in the Philippine Islands.*

Total number of vessels inspected .....	10, 020
Total number of vessels detained in quarantine .....	40
Total number of vessels disinfected .....	137
Total number of vessels fumigated to kill vermin .....	306
Total number of bills of health issued .....	6, 069
Total number of pieces of baggage disinfected .....	49, 643
Total number of pieces of baggage inspected and passed .....	24, 321
Total number of cases of quarantinable diseases detected on vessels:	
Suspected cholera .....	2
Smallpox .....	28
Plague .....	1
Leprosy .....	27

Total number of cases of quarantinable diseases occurring among persons in quarantine (smallpox).....	9
Total number of persons detained in quarantine.....	3, 912
Total number of crew inspected.....	240, 597
Total number of passengers inspected.....	141, 941
Total number of persons vaccinated.....	20, 883
Total number of persons bathed and effects disinfected.....	21, 233

FINANCIAL STATEMENT—RECEIPTS AND EXPENDITURES, QUARANTINE SERVICE APPROPRIATIONS, PHILIPPINE ISLANDS (UNITED STATES CURRENCY).

*General appropriation account, insular treasury, fiscal year 1905.*

CREDITS.

Quarantine appropriation for fiscal year 1905, act 1225 Philippine Commission .....	\$76, 000. 00
Total credits .....	76, 000. 00

DEBITS.

Withdrawals by disbursing officer.....	48, 400. 00
Amount credited to insular purchasing agent.....	9, 084. 60
Balance unwithdrawn from treasury.....	18, 515. 40
Total debits .....	76, 000. 00

*Deficiency appropriation, acts 1188 and 1248.*

CREDITS.

Appropriation for launch repairs and supplies, acts 1188 and 1248, available until used .....	\$5, 000. 00
Total credits .....	5, 000. 00

DEBITS.

Disbursements by disbursing officer.....	\$1, 967. 29
Cash balance in hands of disbursing officer.....	532. 71
Balance unwithdrawn from treasury.....	2, 500. 00
Total debits .....	5, 000. 00

*Special appropriation, acts 831 and 1342.*

CREDITS.

Appropriation for Cebu quarantine station.....	\$30, 000. 00
Appropriation for launch for Manila Bay.....	4, 000. 00
Total credits .....	34, 000. 00

DEBITS.

Funds transferred to insular architect by act 1342.....	20, 638. 425
Disbursements by disbursing officer.....	3, 992. 50
Cash in hands of disbursing officer.....	245. 00
Balance unwithdrawn from treasury.....	9, 124. 075
Total debits .....	34, 000. 00

*Statement of funds (disbursing officer), appropriations of fiscal year 1904.*

## DEBITS.

1904.		
July 1.	To cash balance from June, 1904-----	\$2, 937. 815
July 7.	To refund to expenditures-----	45. 00
Dec. 1.	To transfer to disbursing officer, Washington-----	1, 409. 82
1905.		
May 1.	To transfer to credit insular purchasing agent-----	2, 081. 665
Total debits -----		<u>6, 474. 30</u>

## CREDITS.

1904.		
July 19.	By refund to treasurer, unexpended balance-----	138. 95
Nov. 8.	By refund to treasurer, unexpended balance-----	679. 875
Dec. 30.	By disbursements, disbursing officer, Washington-----	1, 409. 82
1905.		
June 30.	By amount credited insular purchasing agent-----	2, 081. 665
June 30.	By disbursements by disbursing officer, Manila-----	2, 163. 99
Total credits -----		<u>6, 474. 30</u>

*Statement of funds (disbursing officer), appropriations of fiscal year 1905  
(United States currency).*

## DEBITS.

1904.		
July 28.	Received from treasurer, A. W. 5218 -----	\$3, 150. 00
Aug. 12.	Refunds to expenditures-----	46. 50
Aug. 30.	Received from treasurer, A. W. 5405 -----	4, 500. 00
Sept. 6.	Refunds to expenditures-----	37. 50
Sept. 16.	Received from treasurer, A. W. 5465 -----	5, 750. 00
Oct. 12.	Refunds to expenditures-----	62. 00
Oct. 29.	Received from treasurer, A. W. 5661 -----	5, 000. 00
Nov. 8.	Refunds to expenditures-----	62. 00
Nov. 21.	Received from treasurer, A. W. 5736 -----	3, 500. 00
Dec. 6.	Refunds to expenditures-----	72. 00
Dec. 24.	Received from treasurer, A. W. 5879 -----	5, 000. 00
1905.		
Jan. 6.	Refunds to expenditures-----	92. 50
Jan. 26.	Received from treasurer, A. W. 5978 -----	3, 500. 00
Feb. 9.	Refunds to expenditures-----	56. 50
Feb. 28.	Received from treasurer, A. W. 6094 -----	3, 500. 00
Mar. 11.	Refunds to expenditures-----	35. 00
Mar. 27.	Received from treasurer, A. W. 6203 -----	3, 500. 00
Apr. 14.	Refunds to expenditures-----	46. 50
Apr. 29.	Received from treasurer, A. W. 6310 -----	4, 500. 00
May 13.	Refunds to expenditures-----	47. 00
May 27.	Received from treasurer, A. W. 6430 -----	5, 000. 00
June 13.	Refunds to expenditures-----	46. 00
June 28.	Received from treasurer, A. W. 6559 -----	1, 500. 00
Total debits -----		<u>49, 003. 50</u>

## CREDITS.

June 30.	Disbursements by disbursing officer-----	48, 661. 89
June 30.	Cash balance in hands of disbursing officer-----	341. 61
Total credits -----		<u>49, 003. 50</u>

*Statement of funds (United States currency) to be accounted for by expenditures during the period from July 1, 1904, to June 30, 1905.*

Disbursements by J. G. Jester, funds fiscal year 1904.....	\$1, 409. 82
Disbursements by N. C. Comfort, funds fiscal year 1904.....	2, 163. 99
Credited insular purchasing agent, funds fiscal year 1904.....	2, 081. 665
Credited insular architect, funds act 831.....	20, 638. 425
Disbursements by N. C. Comfort, funds act 831.....	3, 992. 50
Disbursements by N. C. Comfort, funds act 1188.....	1, 967. 29
Credited insular purchasing agent, funds fiscal year 1905.....	9, 084. 60
Disbursements by N. C. Comfort, funds fiscal year 1905.....	48, 661. 89
Total .....	90, 000. 18

*Total expenditures (United States currency) for the quarantine service in the Philippine Islands, July 1, 1904, to June 30, 1905.*

DETAILS.

Compensation of personnel.....	\$42, 419. 275
Office and general service expenses.....	1, 942. 08
Launch and barge supplies and repairs.....	9, 578. 83
Purchase of launch for Manila Bay.....	3, 987. 50
Station supplies and disinfectants.....	7, 572. 215
Repairs to buildings and wharves.....	752. 965
New construction and new equipment, ordinary.....	3, 108. 89
Construction of Cebu quarantine station.....	20, 638. 425
Total .....	90, 000. 18

*Expenditures by station (United States currency).*

Manila :		
General service expenses.....	\$21, 391. 985	
Launch expenses.....	6, 254. 505	
New station equipment.....	5, 695. 79	
		\$33, 342. 28
Mariveles :		
General service expenses and supplies.....	16, 917. 53	
Repairs to buildings and wharves.....	842. 345	
New construction and new equipment.....	1, 045. 85	
		18, 805. 725
Iloilo :		
General service expenses.....	3, 022. 55	
Launch and barge expenses.....	3, 878. 865	
New station equipment.....	144. 90	
		7, 046. 315
Cebu :		
General service expenses.....	4, 510. 605	
Launch and barge expenses.....	4, 916. 75	
New construction and station equipment.....	20, 774. 645	
		30, 202. 00
Zamboanga :		
General service expenses.....	130. 00	
Boat expenses.....	0. 00	
New station equipment.....	0. 00	
		130. 00
Jolo :		
General service expenses.....	411. 66	
Boat expenses.....	60. 00	
New station equipment.....	2. 20	
		473. 86
Total.....		90, 000. 18

Respectfully submitted.

VICTOR G. HEISER,  
*Passed Assistant Surgeon,*  
*Chief Quarantine Officer for the Philippine Islands.*  
The SURGEON-GENERAL.

## JAPAN.

## YOKOHAMA.

## REPORT OF TRANSACTIONS AT YOKOHAMA, JAPAN, BY PASSED ASST. SURG. DUNLOP MOORE, DURING THE YEAR ENDED JUNE 30, 1905.

During the year ended June 30, 1905, bills of health were issued at this station to 190 vessels, having an aggregate personnel of 4,029 cabin passengers, 19,305 steerage passengers, and 18,820 crew. Of the above vessels, 171 were under steam and 19 were under sail. The steamers were bound as follows: To Puget Sound ports, 43; to San Francisco, 40; to Philippine ports, 40; to New York, 33; to Portland, Oreg., 15. The destination of the sailing vessels was given as follows: To Guam, 11; to Puget Sound ports, 5; to San Francisco, 2; to New York, 1. San Francisco-bound steamers, as a rule, touch at Honolulu. The entire personnel of the sailing vessels, most of which were small schooners, totaled 657 crew and 3 passengers. A very small proportion of the trade between this port and the United States now falls to the share of sailing vessels. The number of bills of health issued to steamers shows some diminution as compared with former years. This is partly explained by the marked tendency to increase in the tonnage of individual vessels; also by reason of the existing state of war many vessels flying the Japanese flag have been taken off their regular runs. The war also has caused foreign naval vessels to refrain from making this port their summer headquarters, as in former years.

While Yokohama has been practically free from grave quarantinable disease (excluding leprosy and a few cases of smallpox and cholera) during the period under consideration, yet, as many of the steerage passengers embarking here come from distant parts, their sanitary antecedents being unknown or suspicious, it has been deemed advisable to continue the routine practice of disinfecting this class of passengers. Thus 7,770 steerage passengers were bathed and their body clothing was disinfected by steam.

Bills of health were issued to 15 vessels without inspection. Among these were included Government vessels carrying commissioned medical officers and other craft not engaged in the steerage-passenger business whose sanitary antecedents were unexceptionable. All steerage passengers, whether "through" or embarking at this port, were medically inspected prior to the issuance of bills of health, and in the majority of instances the same procedure was followed in the case of the crew. Cabin passengers have been inspected only when special circumstances seemed to demand this measure. Vessels proceeding from Hongkong to San Francisco and touching at the usual ports are now subjected to eight or more medical inspections at the hands of United States and local quarantine officers. It is well worth consideration whether these inspections could not be rendered less onerous without diminishing their efficiency. In view of the fact that most vessels that receive bills of health at Yokohama give a history of recently having touched at ports known or suspected to be infected with pest, this office continues to advise agents of such vessels to submit them from time to time to sulphur fumigation with a view to the destruction of rats. Thus, prior to receiving bills of health, six vessels were fumigated with sulphur dioxide under the supervision of this office.

Sulphur fumigation can be carried out here only in exceptional instances, as most vessels bound for the United States contain cargo during the entire period of their stay in this port. In view of the recent introduction of pest infection into Tokyo and elsewhere in Japan, the local sanitary officials are carrying on a vigorous campaign against rodents on sea as well as land. Vessels lying in the harbor are regularly visited by quarantine officials, traps are set, and money rewards are offered for rats captured on ships as on shore. Recently the local authorities have put into commission a floating disinfecting plant which contains, *inter alia*, an apparatus for the generation of carbon-dioxide gas. It was built in Japan, modeled after an apparatus used in Hamburg. In operation it does not seem to have given entire satisfaction as yet. Similar plants have been built for Kobe and Moji. During the past year one vessel was partially disinfected under the supervision of this office on account of smallpox. The statement sometimes finds its way into print that vessels at far eastern ports all lie in open bay, and it may be that a false sense of sanitary security is thus engendered. In this harbor a considerable number of vessels plying to United States ports lie at the customs pier or enter the Yokohama dry dock. In either

case rat guards are customarily placed on the shore lines, which fact is noted on the bill of health. This office regularly visés all manifests of cargo supposedly capable of conveying infection of cholera or plague when such action is warranted by the evidence submitted. A few packages of articles coming under paragraph 22 of the Regulations, principally human hair, have been subjected to disinfection prior to shipment. Certificates of freedom from infection of cholera and plague have been granted when the facts permitted in the cases of mammalian animals and suitable statements of the cause of death in the case of corpses shipped to America.

## SANITARY CONDITIONS IN JAPAN.

In so far as grave quarantinable diseases are concerned, the most important developments have been noted in the weekly reports of this office.

*Plague.*—Formosa continues to furnish the vast majority of the plague cases occurring in the Empire. The disease exhibits unabated severity in that island and there is reason to believe that the mortality from this cause for 1905 will considerably exceed the record of the preceding year. In this connection the following table showing the progress of plague in Japan, including Formosa, is of interest:

Year.	Cases	Deaths.	Year.	Cases.	Deaths.
1896.....	0	0	1900.....	1,247	962
1897.....	751	567	1901.....	4,499	3,675
1898.....	1,253	832	1902.....	4,510	3,679
1899.....	2,700	2,040	1903.....	2,366	1,906

The figures for 1904 show an increase over 1903, and, as stated, it seems probable that 1905 will furnish a still higher mortality bill. It should, however, be understood that Japan proper can be credited with only a very small percentage of these cases; e. g., in 1901, 3 cases; in 1903, 58 cases. The statistics of plague in Formosa, therefore, practically represent the figures for the entire Empire during a given year. In contradistinction to Formosa, where pest since its introduction in 1897 may be regarded as an established endemic, the history of plague in Japan proper, which dates from the Kobe-Osaka outbreak of 1899-1900, familiarized to the scientific world by Professor Kitasato's able monograph, has been characterized by a series of fresh invasions heretofore invariably stamped out in comparatively incipient stages. During the past year evidence of plague infection, either in rats or in human beings, has been reported in Kagawa Ken, Tokyo, Chiba Ken, Osaka, Kobe, Yokohama, and Shimonoseki; and though the human morbidity has been slight—in Yokohama and Shimonoseki nil—yet the widespread manifestations have caused no little apprehension. The most extensive outbreak reported occurred in a fishing village in Kagawa Ken, in the north of the island of Shikoku. The source of infection seems rather mysterious. After 34 cases had developed, owing, probably, to failure to make an early diagnosis, the disease was eradicated with wonderful promptness by the sanitary authorities. At present writing, Tokyo and Chiba Ken may still be regarded as plague infected. Sanitarians familiar with the trade routes of the Pacific must be cognizant of the fact that plague in Japan presents in many respects a much graver menace to Hawaii and the United States than does the same disease when it is limited to more southern Asia.

The efficient quarantine system of this Empire acts as a most valuable triple filter to the sanitary impurities that, emanating from the great port of Hong-kong, pour toward the shores of America. When this element of safety is to some extent lacking, plague is brought into measurably more intimate relations with the United States, however highly we may regard the probably unsurpassed domestic quarantine system of Japan. The past year has furnished an interesting demonstration of the value of the routine capture and bacteriologic examination of rats in cities liable to pest infection. In both Tokyo and Osaka animals showing pest bacilli were found in advance of the detection of cases of human pest.

*Cholera.*—As in the preceding year, no noteworthy outbreak of this disease has occurred in Japan. Most of the cases reported seem to have been classified more properly as cholérine. In 1903 923 cases of cholera were notified in Japan, 746 of which occurred in Formosa. In 1902, one of the great cholera

years of very recent times, there were reported in Japan, including Formosa, 13,363 cases, with 9,227 deaths.

*Smallpox.*—Of other quarantinable diseases, the normal morbidity from variola shows a constant tendency to diminution, and any considerable outbreak of this infection is usually traceable to importation from without. Thus in the early part of 1904, at the outbreak of hostilities, the return of thousands of Japanese refugees from the infected port of Vladivostok brought about an abnormal increase in the number of cases of smallpox reported. A similar phenomenon was observed at the beginning of the present year. A table taken from the official *Résumé Statistique de l'Empire du Japon*, from which publication many other data of this report have been drawn, is instructive in this connection. The total number of smallpox cases and deaths in Japan, including Formosa, was as follows:

Year.	Cases.	Deaths.	Year.	Cases.	Deaths.
1896.....	10,704	3,388	1900.....	527	10
1897.....	42,347	12,316	1901.....	353	15
1898.....	2,064	395	1902.....	307	18
1899.....	1,613	250	1903.....	367	16

The population of Japan (excluding Formosa) is estimated (1903) at 46,732,841; that of Formosa (1902) at 3,000,111. Considering the fact that Formosa, a recent addition to the Empire, contributes to the above totals an altogether disproportionate number of cases and deaths, the showing for Japan proper becomes vastly more favorable. Thus in 1903 the smallpox cases and deaths in Japan, excluding Formosa, were, respectively, 72 and 6; similarly for 1901, 92 and 4. When one considers the commercial relations of Japan with such hotbeds of smallpox as China and Korea, relations extensive, as shown by the shipping records of such busy ports as Yokohama, Kobe, and Moji, and intimate, in that the time consumed in the passage is far less than the minimum period of the incubation of the disease, the above figures bear witness to the prophylactic efficiency of vaccination in a manner perhaps not elsewhere paralleled.

I have had opportunities for observing large numbers of Japanese troops and considerable numbers of Russian prisoners. The rarity of pockmarked faces among the former is as striking as the frequency of this disfigurement among their antagonists, and necessarily leads to an opinion as to the comparative sanitary status of the organizations they respectively represent. A comparison of the Japanese variola statistics with those of our own country as given in the Public Health Reports suggests some interesting reflections. In this connection it may be remarked that the records of cases of smallpox detected at quarantine in Japan and elsewhere in the Far East would indicate that, with regard to probability of infecting shipping with this disease, Shanghai has been during the past year the most dangerous port in the world.

*Leprosy* still remains a serious matter in Japan. No effective measures for its control have yet been taken. This country seems to attract lepers from all parts of the world, and Hawaiian, Philippine, and even American victims of this infection find in Japan a refuge where they can hold unrestrained intercourse with their fellow-men.

*Evanthematic typhus* is a rare disease in Japan, and no case has been reported officially in Yokohama for at least three years. Statistics for the whole Empire mention 8 cases, with 5 deaths, as occurring in 1903. The largest number of cases per annum of this disease reported in Japan during the past nine years was 92, with 28 deaths, in 1896.

*Yellow fever.*—Japan, in common with continental Asia, continues to enjoy its traditional freedom from this scourge, owing, no doubt, to the lack of regular, direct, commercial intercourse with the infected ports of America and the wide separation which is afforded by the intervening Pacific. It is reported that the *stegomyia fasciata* has its habitat in Japan as well as in China and the Philippines. Though the *stegomyia scutellaris* is fairly common in Yokohama, I have not yet observed *fasciata*. Of great interest to sanitarians is the announcement that the Toyo Kisen Kwaisha contemplates the initiation of a direct steamship line between China, Japan, and South America during the present year. This innovation in trans-Pacific trade opens up a new route for interchange of infection between America and Asia.



*Dysentery*, which, through the researches of Shiga and others, has become familiar to the Western World as one of the scourges of Japan, shows, thanks to repressive measures, a fairly progressive tendency of recent years toward decrease. Thus statistics for the Empire during 1903 show 31,065 cases, with 7,397 deaths, as compared with 109,086 cases, with 25,859 deaths, in 1899. It might be unnecessary to repeat that dysentery is regarded as a grave quarantinable disease in Japan but for the fact that this office occasionally learns of instances where medical officers of vessels, ignorant of this circumstance, have created for themselves superfluous difficulties at quarantine by loosely applying the term dysentery to other diarrheal disorders.

Among other diseases possessing some title to be regarded as quarantinable and prevailing in this Empire to a striking extent is beriberi. The mortality returns for 1901 credit 7,180 deaths to this cause. Kakké has played a prominent rôle in the invaliding of Japanese troops during the present war, and cases not infrequently appear among the crews of vessels engaged in the Asiatic trade.

With the exceptions previously mentioned, the causes of mortality in Japan differ much less markedly from those of western countries than is commonly believed, especially if due allowance be made for such idiosyncrasies of diagnosis as swell the mortality lists of malaria in some nonpaludic districts of the United States.

Tuberculosis is not less flourishing and fatal in Asia than in America. Professor Kitasato, in a recent popular article, notes that the death rate of Tokyo from this infection is about double that of Chicago, a state of affairs which he is inclined to ascribe largely to lack of physical exercise on the part of Japanese youth. Among the cases of death occurring on vessels crossing the Pacific which are brought to the attention of this office perhaps the majority are attributed to tubercle, chiefly in the persons of Asiatics returning from America to their native land. In most instances no proper measures are taken for the isolation of steerage passengers so affected from their fellows, and it appears doubtful whether the quarters where they have lain and died always receive suitable disinfection before being occupied by new tenants. Trans-Pacific passenger ships are fitted out with hospitals, as the law requires, but the apartments provided for this purpose are often not advantageously located and sometimes unavailable, even being used for the storage of freight, as has come under the observation of the representative of this office.

I have dwelt at some length upon the subject of the sanitary condition of Japan for the reason that the data above cited, if carefully considered with relation to environment, should prove conclusively that Japan in matters hygienic does not belong to Asia, but ranks with the most enlightened peoples of the western world. Her leading cities receive an admirable water supply; her system of quarantine, both foreign and domestic, is admirable; her laws governing the sale of food and drugs take an advanced position; her sanitarians stand with the first of their profession, and her laymen possess surprisingly sound notions of the leading principles of practical hygiene.

The curious notion, apparently entertained by a certain number of foreigners, that though the seaports be clean, the hinterland of Japan, as that of China, is the perennial abiding place of strange diseases unfamiliar to the West, is, of course, baseless, and is only mentioned here by way of introducing a few remarks on one disease which is probably peculiar to Japan—at least as far as known—no similar malady having been described in any other country. I refer to what is ordinarily termed by the Japanese *tsutsuga mushi byo* (literally *tsutsuga* insect disease). In its main symptomatology this disease was introduced to the medical world by the writings of Baelz and others. A more or less accurate account of the malady under the title "*The river fever of Japan (shima mushi)*" is accessible to English readers in Manson's *Tropical Diseases*. Investigation of the recent vernacular literature of the subject discloses some interesting points in connection with the etiology and diagnosis which perhaps have not yet appeared in English and of which I shall endeavor to present a brief account. The disease derives its name from an old deep-seated popular belief that its symptoms are caused by the bite of a certain insect, the "*tsutsuga-mushi*" (*mushi*=insect). This causal relation was controverted by Baelz, but has been reasserted by the most recent Japanese investigators on apparently sufficient grounds.

This disease may be defined as an acute endemic affection, probably always preceded by the bite of a certain insect and characterized by an initial cutaneous lesion, high fever, an exanthematous eruption, enlargement of spleen and lymphatic glands, and a very considerable mortality. Professor Kitasato has

described a hæmatozoon in the red cells, to which he ascribes diagnostic and etiological importance.

The malady only occurs among laborers employed in certain districts along the banks of the Shinanogawa and the Aganogawa, two rivers of the province of Echigo, in western Japan, emptying into the Japan Sea. The local inhabitants have long recognized the danger of working in these districts, and only through stress of poverty are compelled to assume the risk. The dangerous areas are all found in territory which is inundated by the floods to which these rivers are subject. But by no means all the territory subject to inundation is infected, nor do, apparently, the endemic areas remain constant from year to year. Laborers in these districts are subject to the bite of an insect, the *tsutsuga-mushi*, the irritation produced by the "bite," more properly burrow, of which closely resembles the early stages of the initial lesion of the *tsutsuga mushi* disease. Sometimes these bites are not followed by constitutional symptoms or by the development of an ulcer, merely giving rise to local irritation, which disappears in a few days; but so often is the bite followed by the *tsutsuga mushi* disease that belief in the relationship between the two has long existed in the popular mind. Fairly ancient writings contain references to this malady, and a primitive kind of specialist continues to flourish in Echigo and eke a livelihood out of the application of crude methods of healing to the present day. The *tsutsuga mushi* rejoices in a great variety of names—e. g., *aka mushi*, *shiro mushi*, *ogi mushi*, *kaya mushi*, *shiba mushi*, *shima mushi*, etc.—but its scientific study by a competent entomologist is much to be desired, as the natural history of this insect seems to be very imperfectly understood. It seems to be a species of *acarus*, resembling *leptus autumnalis*. Kawakawi gives its length as 0.5 mm. and its diameter as 0.3 mm. It has never been found save in the lesions which it produces in man, from which it may be picked by a needle.

Kawakawi sums up the reasons for his belief in the inseparable relationship between this disease and the *tsutsuga mushi* as follows:

- (1) The insect occurs only in places within the river banks or on islands, and its bites have never been known in districts where the disease does not occur.

- (2) The insect is found between June and October, a period exactly corresponding with that of the incidence of the disease.

- (3) At times when the insects are abundant cases of the disease are likewise numerous.

- (4) Generally the site of the bite of this insect becomes the location of a characteristic ulcer of this disease.

- (5) Bites of the insect occur in the same parts of the human body which are the recognized seats of election of the ulcer of the disease. These facts make out a very strong case against the *tsutsuga mushi* as a *sine qua non* in the production of this malady. Not improbably we will soon be justified in making an addition to the interesting and increasing list of diseases known to be transmitted to man through the attacks of the lower animals. The striking analogy to Texas fever is obvious and has impressed all recent investigators. Not less interesting are its many and marked affinities with the tick fever of the Rocky Mountains. Naturally enough, the blood conditions have received special attention from all recent investigators of this infection. Unquestionably the most important contribution to the literature of the subject we owe to Professor Kitasato. This eminent scientist, bringing for the first time modern bacteriological methods to the study of this disease, showed conclusively that it was a new specific infection, and particularly proved by repeated examinations of feces and blood that it was entirely distinct from malaria and enteric fever, with which infections it had been confused by previous unbacteriologic students of the malady. Kitasato further described and pictured in his monograph the erythrocytes in this disease as being the habitat of a nonpigmented plasmodium, which he found in large numbers—as many as 50 in a microscopic field. He further stated that this plasmodium is differentiated from the malarial parasite by its great refractoriness to certain stains, such as methylene blue, which in control tests on malarial blood (malaria is found in Echigo) brought the organisms out well. To this plasmodium Kitasato ascribed diagnostic and probable etiological importance.

It is perhaps not surprising to learn that these findings have not received universal acceptance, some subsequent investigators reaching the conclusion that the blood in this disease shows no pathognomonic alterations, and the "plasmodia" merely represent vacuoles or other changes which may be observed in normal blood. Professor Kitasato's brochure is still, however, of unusual interest, not only because it presents the most modern and complete

account of the symptomatology of this remarkable disease, but because it records apparently the only modern investigation into its etiology, and that by a bacteriologist of the first rank. He states that examination of the contents of the ulcer shows no characteristic organisms, and inoculation of the same into animals was negative save for the production of pus. On the other hand, while injection of the blood of a patient into guinea pigs and rabbits gave negative results, the same experiment on an ape gave rise to a febrile condition in the injected animal, its blood showing plasmodia. It is evident that what is known of this disease arouses scientific curiosity to the highest degree, and the results of a new investigation now being undertaken by the Government laboratory for the investigation of infectious diseases are awaited with great interest. A disease similar to *tsutsuga mushi byo*, though less well known, exists farther north, in the province of Akita, along a curiously limited portion of the course of the Omowogawa, not a tributary of the Shinawogawa, as stated by Manson. It is known locally as *kedani byo*. While very closely simulating the allied affection, the symptoms of the two diseases are said to differ somewhat, and perhaps the infecting acarus is of a different species.

As this report has already assumed somewhat lengthy dimensions, I shall not touch further upon the symptomatology or pathology of *tsutsuga mushi byo*, the main details of which are given in Manson's Tropical Diseases. That work gives the mortality, on what authority it is not stated, as 15 per cent. This is probably too low. Of Kitasato's 18 cases 4 died. Statistics given by Kawakami, covering the period 1880-1903, show 1,398 cases, with 308 deaths. In 1903 alone 223 cases, with 58 deaths, were reported, showing the formidable character of the infection, though it seems probable that if notification were enforced more rigidly the apparent percentage of mortality would undergo a slight reduction. Kitasato has shown that age, sex, occupation, etc., are predisposing causes only in so far as they bring about exposure to infection. Therefore the vast majority of patients give their occupation as farmers, their work calling them to the river banks and islands, where the disease is endemic. The same observer notes that death is usually due to complications, chiefly pulmonary.

The treatment of the disease presents nothing of interest. Apparently quinine has no specific value. Under prophylaxis Kitasato suggests local applications of peppermint oil to the parts likely to be bitten by the acarus. He also suggests sprinkling of limewater and burning straw and other combustibles over the territory where the disease is endemic for the purpose of destroying insects. As an insecticide Kawakami recommends the use of kerosene on the following grounds: The province of Echigo, where the disease is found, is the chief oil-producing district of Japan. Statistics show that in 1896 and 1897, when the rivers rose to a great height in July and August, respectively, the morbidity due to *tsutsuga mushi byo*, particularly in 1897, was strikingly less than normal. This circumstance is ascribed by Kawakami to the fact that the rising waters reached the oil tanks and carried away many thousand gallons of petroleum, which, being distributed over the wide extent of submerged land, destroyed the *tsutsuga mushi*, and thereby vastly reduced the number of cases of the disease which it conveys.

The foregoing may be regarded as a synopsis of the most recent work by Japanese observers on this unique, interesting, and little-known disease. The investigations of the present summer may reasonably be expected to throw much light upon the many mooted points relating to its etiology and diagnosis.

#### INSPECTION OF IMMIGRANTS.

In addition to the purely quarantine functions of this office during the year ended June 30, 1905, its representative examined 13,711 intending immigrants into the United States with reference to their freedom from any loathsome or any dangerous contagious disease contemplated by the United States immigration laws. Of the above 7,639 were certified on the ship's manifests as free from loathsome or dangerous contagious disease, and presumably took passage. Of those persons representing the difference between the two figures a portion were recommended to the steamship companies concerned for rejection on account of some loathsome or dangerous contagious disease. Descriptive lists of these would-be passengers were forwarded to the medical officer in charge of medical inspection of immigrants at intended port of arrival and copies of same to the Bureau and to the Commissioner-General of Immigration. A much larger number were advised to remain under observation until a future sailing, and a small number failed to take passage for various reasons.

As in the previous year, trachoma has held the predominant place as a ground for advising rejection; indeed all other causes combined form a quite insignificant factor in the total. A few suspected cases of favus and other forms of tinea, tubercle, syphilis, and ozoena have been advised to remain under further observation, but, with these exceptions, the only nonquarantinable cause for rejection at this port during the past year has been trachoma. The figures given therefore prove that trachoma is an extremely common disease in Japan. It is not possible, however, to present statistics showing with any degree of accuracy the percentage of trachoma cases among the immigrant population of Japan for the following reasons: The prospective immigrants that come up for examination here are not an average, but a more or less selected lot. Before facing the representative of this office the bulk of them have undergone one or more previous examinations at the hands of more or less competent physicians. Sometimes before beginning their journey they are examined at their homes, usually several hundred miles distant from Yokohama. After arrival here they usually undergo inspection at the hands of a skilled Japanese ophthalmologist. Finally they are seen by the ship's surgeon, as well as by the representative of this office. A countervailing factor even more important than that mentioned is that, little restriction being placed on the number of times an intending immigrant may present himself for examination, the lists of aliens recommended for rejection contain many names which appear over and over again. These and other factors tend to vitiate our statistics in so far as they might serve as a criterion of the amount of trachoma existing in Japan. It is evident, however, that this loathsome disease does prevail throughout the Empire to an extent almost unparalleled elsewhere, a circumstance recognized and deplored by many intelligent Japanese. A recent writer in the *Jiji Shimpō*, a leading Tokyo newspaper, states on the authority of an unnamed naval officer that as many as 70 per cent of applicants for enlistment in the imperial navy have been found, on occasion, to be suffering from trachoma. No doubt the lower classes are more frequently afflicted than their superiors in the social scale, and the great bulk of immigration from Japan to the United States and its possessions is drawn from the former element. But when one considers either the superlative physical cleanliness which not only distinguishes the Japanese people, as a race, from their immediate neighbors, but perhaps gives them a preeminence among all the peoples of the world; or their dignified system of social intercourse, which largely frees them from the intimate physical contact with their fellows that other codes of etiquette prescribe, any attempt to account for the extraordinary prevalence of trachoma in this country is not a little perplexing.

Perhaps an explanation may be found in certain institutions, in themselves cleanly, but quite capable of acting as efficient agents in the spread of contagion; for example, the public bath which is patronized by the great bulk of the population. Again, at the entrance of temples one commonly observes a basin of water where the worshippers perform their predevotional ablutions. Over this receptacle hangs a *tenugui*, the native equivalent for the occidental towel, one of which may be used successively by hundreds of people. A similar arrangement forms an essential adjunct to every Japanese water-closet, the order of ceremony being, of course, reversed. Thus the humble *tenugui* is open to indictment as a leading factor in the spread of trachoma. No rigid governmental measures are enforced for the control of this disease. According to a speech by a member of the Diet, even in times of peace this disease does not exempt a soldier from conscription, and since the outbreak of war I have observed soldiers during a halt on march apply local medication to trachomatous-looking eyes. With regard to trachoma as it appears among intending immigrants at this port, it is noteworthy that while the manifestations of the disease on the palpebral conjunctivæ are often very pronounced, it is extremely unusual to observe any marked impairment of vision or any noticeable corneal involvement. Quite otherwise is it with the Chinese crews of vessels that come under my observation. Among the latter, old, neglected, and complicated cases of trachoma are of very frequent occurrence. Nor is this disease rare among the European members of crews engaged in the trans-Pacific trade. Recently a competent ship's surgeon informed me that six of the "European" officers of his vessel were then receiving treatment at his hands for this condition. Which leads to the observation that the modern steamship, with all its improvements in some respects, often fails to provide sanitary quarters for its fore-castle crew. Manson's picture of the fore-castle occupied by a Lascar crew is by no means overcolored or uncommonly witnessed. Some steamers built thirty years ago show better fore-castles, sanitarily considered, than some of the latest products of the twentieth century; while the old sailing vessel is often better equipped than either.

Trachoma apart, the Japanese immigrants that come under the observation of this office, though perhaps showing a slight tendency to deteriorate as compared with their predecessors of a few years ago, are still good physical specimens, and in this regard must compare favorably with any other class of immigrants that enter the United States; neither has this office, in a somewhat extensive personal experience, been able to detect any evidence of mental or moral inferiority. Whether "the oranges of Konan become sour berries when transplanted to Kohoku," I can not determine.

On the whole, the relations of this office with the representatives of the steamship companies have been satisfactory; with the largest and most responsible concerns, uniformly so.

My report would be incomplete without some acknowledgment of the valued cooperation of the American consul-general at this port, Mr. H. B. Miller.

D. MOORE,  
*Passed Assistant Surgeon.*

The SURGEON-GENERAL.

#### NAGASAKI.

##### REPORT OF SANITARY INSPECTOR ROBERT I. BOWIE.

##### PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE OF THE UNITED STATES, OFFICE OF THE MEDICAL OFFICER IN COMMAND, *Nagasaki, Japan, July 1, 1905.*

SIR: I have the honor to send you herewith a résumé of the number of vessels and crews and passengers inspected and passed at this port during the fiscal year ended June 30, 1905.

Nagasaki having been declared at the commencement of hostilities between Japan and Russia a naval port under martial law, the trade of the place has suffered and the withdrawal of merchant steamers engaged in trading between this and American ports for army-transport service has further tended to cause a decrease as compared with previous years. The continued calling out of the reserves and the steady enforcement of the regulations bearing upon the examination of immigrants, especially with reference to trachoma, have for the moment reduced the number from this part of Japan to the Philippine Islands virtually to a negligible quantity—out of 495 steerage applicants examined during the past fiscal year 228, or over 45 per cent, were rejected on account of the presence of trachoma. Despite the very large percentage of rejections and the numberless object lessons among the Japanese, it is remarkable that no effort is made by the civil authorities to arrest the progress of this most distressing complaint. I am satisfied from my experience that the disease is increasing in this island. But I am also of the opinion that many cases are arbitrarily classed at American ports as trachomatous and rejected owing to the lack of uniformity in the classification of the disease. Recently a case of trachoma (alleged) in a cabin passenger was rejected at San Francisco, whereupon the party in question returned to Japan, took passage by another steamer, was landed, and passed at one of the northern ports, and is now in the United States.

During the past twelve months Nagasaki has happily escaped any of the dangerous epidemics that have caused such havoc in former years. But among those diseases which are classed as endemic, which in their remote effects cause unnumbered deaths and untold misery, are syphilis and gonorrhoea, that are giving to Nagasaki an unenviable reputation. Thousands of American soldiers pass through this port every year, and from information obtained from the transport surgeons, I gather that a large proportion reach San Francisco infected with venereal disease. Many of them of course bring the disease with them from the Philippines.

In the German navy sailors and noncoms are compelled to report to the surgeons of their respective commands on the day following a suspicious exposure. My confrères tell me that the percentage of communicable diseases has been greatly lowered thereby. Possibly the freeborn American would consider this an insult and an infringement of his personal liberty. But I can see no more reason in turning an infected soldier loose upon his return home than to allow persons afflicted with smallpox or plague to land and spread pestilence far and wide. I feel that I would be derelict in my duty did I not call the attention of the Bureau to the steady stream of filth that is being poured unnoticed upon our shores.

Number of steamers inspected and passed at the port of Nagasaki during the fiscal year ending June 30, 1905, 88.

Total number of passengers and crews inspected and passed during same period, respectively, 20,758 and 15,388.

Respectfully,

ROBERT I. BOWIE,  
*Sanitary Inspector.*

The SURGEON-GENERAL.

KOBE.

REPORT BY ACTING ASST. SURG. J. B. FOWLER.

OFFICE SANITARY INSPECTOR,  
PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
*Kobe, Japan, July, 1905.*

SIR: I have the honor to submit my report of the transactions at the port of Kobe for the year ending June 30, 1905.

I have officially inspected 205 vessels bound for ports in the United States and ports in the possession of the United States, as compared with 227 for the year 1904, 193 steamships and 12 sailing ships. Of these vessels, 69 were under the United States flag; 99 British, 19 German, 13 Japanese, 3 Norwegian, 1 French, and 1 Austrian. The crews of these vessels numbered 19,181. Eighty steamers carried 13,547 steerage passengers.

The number of pieces of baggage disinfected were: Of Japanese to United States ports, 2,464; of Koreans to Honolulu, 2,140.

All the Korean steerage passengers were bathed in baths of perchloride of mercury solution immediately prior to embarking.

Eight vessels had their holds and crew's quarters disinfected with sulphur; crews bathed in perchloride of mercury solution and their baggage disinfected under superheated steam.

Cholera broke out in July and ended in November. During this period there were 17 deaths.

There were 3 cases of smallpox, but no deaths.

Respectfully,

J. BUCKNILL FOWLER,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

CHINA.

HONGKONG.

REPORT BY PASSED ASST. SURG. M. J. WHITE.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Hongkong, July 11, 1905.*

SIR: I have the honor to transmit herewith the annual report of this station and the medical report of aliens examined during the fiscal year ended June 30, 1905.

The work has in all respects been conducted along the lines indicated in my last annual report.

Steam vessels inspected and granted bills of health.....	280
Sailing vessels inspected and granted bills of health.....	14
Vessels fumigated to kill vermin.....	7
Vessels fumigated on account of variola.....	2
Vessels on which variola was found at inspection.....	2
Persons examined for diseases contemplated in paragraphs 29 and 67 of the Quarantine Regulations:	
Personnel.....	33,436
Passengers.....	15,507
Persons required to bathe and undergo special examination:	
Personnel.....	18,852
Passengers.....	7,218
Rejections for quarantinable diseases.....	9

Persons examined for diseases contemplated by the laws controlling immigration:

Aliens (second class and steerage) .....	2,790
Rejected .....	1,288
Baggage:	
Inspected and labeled .....	pieces-- 928
Disinfected and labeled .....	do-- 24,117

#### CARGO AND SHIP SUPPLIES.

The shipment and transshipment hence was supervised by inspection, disinfection, storage detention, and certification of shipping orders. No cargo likely to convey infection was received aboard ship until the shipping orders were certified by us, and such certificates were used by the masters in passing quarantine at the ports of arrival.

#### *Cargo labeled and held in godowns, paragraph 22.*

Bristles .....	boxes-- 362
Human hair .....	do-- 434
Feathers .....	bales-- 180

#### *Cargo disinfected.*

Hides .....	bales-- 186
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#### *Return of quarantinable diseases.*

	Cases.	Deaths.
Plague .....	868	268
Smallpox .....	75	24
Cholera .....	6	6
Others .....	0	0

#### *Return of diseases contemplated in paragraph 67.*

	Cases.	Deaths.
Enteric fever .....	126	64
Scarlet fever .....	2	0
Diphtheria .....	16	4
Others .....	0	0

Respectfully,

The SURGEON-GENERAL.

M. J. WHITE,  
*Passed Assistant Surgeon.*

SHANGHAI.

REPORT BY ACTING ASST. SURG. S. A. RANSOM.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Shanghai, China, July 17, 1905.*

SIR: I have the honor to submit herewith the annual report of the transactions at this station during the fiscal year ended June 30, 1905.

There was an increase of 18 steamers, 8,157 crew, and 3,195 passengers over the number which came under the observation of this office during the last fiscal year, while there was a decrease of 8 steamers and 3 sailing vessels in the number disinfected.

The considerable increase of work shown can be partly accounted for by actual increase in the number of persons traveling and partly by the fact that

on account of the lack of facilities placed at the disposal of this office by the steamship companies it was found necessary throughout the year to conduct on board the vessels at Woosung the inspection which was formerly done on the tender before leaving Shanghai. The latter included only such persons as took passage from this port, while the examination made at Woosung included the entire personnel of the vessel, except during such time as previous ports of call were free from plague, cholera, or other quarantinable disease in epidemic form, when the cabin passengers were excused. The total number of persons inspected during the year was 21,854.

The decrease in the number of vessels disinfected can be accounted for chiefly by the discontinuance of the practice of shipping cattle from Shanghai to Manila. Vessels engaged in this trade were disinfected here before loading for each trip, at the request of the insular government through the chief quarantine officer of the Philippine Islands.

There were viséed 615,986 packages of freight, being 63,955 less than during 1903-4. These packages vary in size from a box of tea to a bale of hides, and represent many thousands of tons of cargo. The decrease in the number shipped is due to the war conditions which have prevailed in this vicinity during the year just closed. It will be remembered in this connection that the entire Japanese line formerly running to Seattle has been withdrawn, which alone would account for the difference.

The number of pieces of freight inspected and passed shows an increase of 912, which is caused by the recently inaugurated practice of shipping vegetables (potatoes and onions) from Shanghai to the Philippine Islands during such time, brief though it may be, as there is little or no danger of their conveying cholera. In all such instances the entire shipment is carefully inspected to see that the articles are sound and clean, after which a certificate in duplicate, showing the facts, is issued, one copy being forwarded with the goods and the other with the invoice.

The number of pieces of freight disinfected was decreased by 189, and no pieces were rejected this year. There were also disinfected 66 less pieces of baggage than in 1903-4.

The number of immigrants examined this year was 61, as compared with 89 last year. The number rejected during both periods was 7, and the causes of rejection in 1904-5 were, 6 for trachoma and 1 for favus.

The epidemic of smallpox which prevailed here during the winter caused this office to adopt the practice of issuing vaccination certificates to such persons bound to American ports as were entitled to and applied for them. Of such certificates there were 758 issued. Of 268 cases under observation after the operation 243, or 91 per cent, were successful, and but 3 "sore arms" were seen, and in these the trouble seemed to be due to personal idiosyncrasy rather than to any defect in the vaccine or technique. These cases all occurred in one family, and other persons operated upon with the same virus and under exactly similar conditions had no ill effects. This seems a most favorable showing when it is remembered that practically none of these cases were primary vaccinations. This vaccine was raised in the municipal laboratory here.

There were investigated during the year 106 cases of illness occurring on board vessels bound to American ports, of which 5 on 3 vessels proved to be quarantinable—smallpox. In each instance the vessel, together with the effects of the entire personnel, were disinfected by this office, with the exception of the U. S. turret ship *Monadnock*, which was treated by her medical officer before the case came to my notice.

It is thought that, considering the serious detriment to shipping interests generally which has resulted from the Russo-Japanese war, the figures submitted are in excess of what might reasonably have been expected.

All disinfection required here, viz, that of infected or suspicious vessels, crews and their effects, passengers, and freight, is supervised throughout its entire extent by the medical officer in person. The methods employed are the same as last year, which were fully described on pages 4 and 5 of the Annual Report for 1903-4.

It is still maintained that Asiatic crews and steerage passengers should not be permitted ashore in Shanghai during the stay of the vessel here, and this rule is apparently but rarely transgressed by mail steamers, which would constitute the greatest menace on account of their numerous personnel and comparatively short trip to the west coast. This can not be enforced, of course, in the case of tramp steamers lying at the docks for several days, but the baggage is not taken off the ship, which is in a measure a safeguard.



Where vessels are bound direct to American ports it is the practice of this office to recommend the vaccination of all on board before departure, which recommendation is generally adopted, and it is believed that this action is responsible for the freedom of such vessels from smallpox en route. Numerous cases of this disease have appeared among the personnel of vessels from Shanghai to other ports, which vessels have not adopted this precaution.

The question of ballast has been the source of considerable correspondence between this office and those ports on the Pacific coast, Hawaiian and Philippine Islands, to which ships thus loaded are frequently bound. It was deemed most desirable to obtain exact knowledge as to the treatment vessels were subjected to at the several ports, when arriving with stone or mud ballast, in order that if stone was admitted without detention this might be held out to masters as an additional reason why they should take what is undoubtedly the more sanitary of the two. Vessels carrying stone were found to be exempt from serious detention at most of the home ports; hence it is the general practice to take that kind of ballast when obtainable. It is not first class, but is the best to be had.

The use of rat guards, etc., is strongly recommended by this office to American-bound vessels while at the docks here, and this recommendation is generally acted favorably upon. In some cases, however, there is a hesitancy to incur this slight additional expense and trouble, and, owing to the fact that plague has not made its appearance here, and the extreme difficulty in enforcing adequate precautions of this kind over some 12 miles of river front without assistance, rat guards have not been made obligatory. When these precautions are taken the fact is noted on the bill of health.

The relations of the office with the shipping interests generally during the entire year have been harmonious. There have been practically no complaints made, and none with foundation upon fact. Close touch has been maintained with the sanitary conditions at the various outports, shipping to the United States via Shanghai, through the consular officers stationed at each, and numerous inspections of packing plants in Shanghai have been made from time to time, to see that freight was prepared in accordance with the quarantine regulations.

The health conditions in this region since the last annual report have not been exceedingly bad, nor yet good. The quarantinable diseases which have been reported in the foreign settlement since July 1, 1904, are cholera, leprosy, and smallpox. Cholera is credited with 2 deaths and leprosy with 1 death during the year among the foreign population. There were no deaths from either disease reported among the natives. It is more than probable, however, that the former was responsible for a considerable mortality among the latter class in this immediate vicinity.

Smallpox, which prevailed throughout the entire year, assumed epidemic proportions in November, 1904, reaching its highest curve during the week ended December 18, 1904, when there were 86 deaths reported among the Chinese and 4 new cases among foreigners. The highest number of cases among the European population (11) occurred during the week ended December 25, 1904. There were reported as the result of this disease 738 deaths among Chinese, and 96 cases, with 33 deaths, among foreigners, a mortality of 34.4 per cent for the latter. The type of disease was exceedingly severe, about half the fatal cases in the white population having been hemorrhagic. Some of the patients died within twelve hours of the initial symptoms, the only objective symptom often being hemorrhage into the conjunctiva. The usual subjective symptoms were generally pronounced.

A number of cases even among foreigners were not officially reported, and with the insurmountable difficulties in the way of collecting reliable data regarding the native population, it is fair to estimate that the reported deaths did not constitute even 25 per cent of those actually occurring. It is probable, therefore, that there were more than 9,000 cases, with at least 3,000 deaths, from this disease among the native population of Shanghai and its immediate environs during the period between July 1, 1904, and June 30, 1905.

Dengue was present again during the summer and fall of 1904, and while there is no record of mortality from this cause, the disease was responsible for a great deal of physical suffering and incapacitated at least one-third of the population during its prevalence.

The other communicable diseases reported present in the foreign community were enteric fever, 16 deaths; diphtheria, 3 deaths; scarlet fever, 5 deaths; measles, 2 deaths; tuberculosis, 16 deaths. There was a mortality of 1,827 from the latter disease among the natives.

Diarrheal diseases, other than enteric fever and cholera, caused 24 deaths among foreigners.

Plague continues to threaten Shanghai, as is shown by the fact that 1 undoubted case and 6 suspected cases of that disease were intercepted by the Imperial Chinese quarantine officer at Chung-Pao-Sha, at the mouth of the Whangpoo River, upon vessels en route to this port during the quarantine season in 1904. The closed season, during which inspections of vessels are made, only covers the period of greatest prevalence of plague at the adjacent ports. No case, however, has been reported within the settlement.

Malarial fevers prevail to a considerable extent notwithstanding the fact that an examination of the mosquitoes in this vicinity reveals but a very small percentage of Anopheles. The disease is usually of mild type and is probably largely imported from the surrounding country.

Beriberi seems to be on the decline, judging from the report of the municipal health officer, a copy of which is transmitted to the bureau under separate cover. A number of cases, however, have been met with on board vessels in this port, but these can hardly be laid at the door of Shanghai.

Rabies is known to have caused the death of 1 foreigner and 1 native during the year.

Among animals rinderpest still prevails, as well as foot-and-mouth disease, rabies, etc., but, it seems, to a less extent than during the preceding two years.

The director of the Zi-ka-wei Observatory has kindly supplied me with the following information as to the prevailing meteorological conditions at Shanghai: Mean barometer, 30.03; mean temperature, 58.80°; mean daily range temperature, 15.90°; mean humidity, 79; rainfall, 40.25 mm.

The temperature rises at times to as much as 103° in the shade and falls to 25° or less. The humidity is frequently 100 and falls at times to 24. The maximum rainfall for any one day was 61.8 mm.

The bacteriological examination of the Shanghai water supply after filtration shows a maximum of 250 colonies per cubic centimeter in February with a minimum of 60 colonies in April. The average was 134 for the twelve months ended December 31, 1904. The method of providing the water supply has been previously described.

It is respectfully submitted in closing that a launch, preferably steam, is very much needed at this station. It is also recommended that an autoclave be supplied for the purpose of disinfecting baggage, small lots of freight, etc. The desirability of providing sulphur to be purchased from the service by masters for the disinfection of their vessels has not diminished, and the recommendation previously made in this connection is respectfully renewed.

I have to acknowledge my indebtedness to the officers of the American consulate in Shanghai for their courtesy and cordial support in matters appertaining to the Service.

Very respectfully,

S. A. RANSOM,  
Acting Assistant Surgeon.

The SURGEON-GENERAL.

*Transactions at Shanghai during fiscal year ended June 30, 1905.*

Vessels spoken and passed .....	5
Steamers inspected and passed .....	118
Steamers disinfected .....	4
Sailing vessels inspected and passed .....	14
Sailing vessels disinfected .....	3
Crew on steamers .....	14,616
Crew on sailing vessels .....	293
Passengers on steamers .....	6,944
Passengers on sailing vessels .....	1
Bills of health issued .....	137
Pieces of freight viséed .....	615,986
Pieces of freight inspected .....	1,498
Pieces of freight disinfected .....	216
Pieces of baggage inspected .....	2,348
Pieces of baggage disinfected .....	431
Vaccination certificates issued .....	758
Cases of illness investigated .....	106
Suspicious cases observed .....	8
Cases of quarantinable disease (smallpox) .....	5

## INDIA.

## CALCUTTA.

REPORT OF ACTING ASST. SURG. OLIN M. EAKINS.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
*Calcutta, July 6, 1905.*

SIR: I have the honor to forward the following summary of transactions at this port for the year ending June 30, 1905:

Bills of health during the year were issued to 49 vessels.

It is the custom that all ships leaving this port for the United States shall have their holds fumigated with sulphur. When indicated, all compartments for crew are thoroughly cleaned, washed, and either newly painted or whitewashed. Rat guards are kept on the wharf lines, and the ends of gangways tarred, although it is said that there are practically no rats at the Kidderpore Docks.

So far as I have known there have been but two of the cases examined during the past year who have subsequently developed plague. One occurred while I was acting port health officer on a ship bound for England, the other on a ship bound for Germany.

Respectfully,

OLIN M. EAKINS,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

## WEST INDIES.

## DETAILS OF SERVICE OFFICERS IN THE WEST INDIES.

Upon request of the commercial interests of New Orleans, La., and of the president of the State board of health of Louisiana, Asst. Surg. W. K. Ward, on July 12, 1904, was detailed by the President for duty in the office of the United States consul at Bridgeton, Barbados, West Indies. In addition to the inspection of vessels leaving that port for United States ports and signing bills of health in conjunction with the consul, Doctor Ward fumigates all vessels from ports infected or suspected of being infected with yellow fever, bound for southern ports of the United States, to kill mosquitoes, on request of the master, agent, or owner, thereby avoiding the five days' quarantine detention upon arrival at southern ports.

Passed Asst. Surg. L. D. Fricks was detailed for the same duty at Castries, St. Lucia, on March 17, 1905.

PHYSICAL EXAMINATION OF LABORERS SAILING FOR CANAL ZONE TO BE  
MADE BY SERVICE OFFICER AT BARBADOS.

ISTHMIAN CANAL COMMISSION,  
*Washington, D. C., March 16, 1905.*

DEAR GENERAL: I have your letter of the 14th instant advising that Mr. W. J. Karner, chief engineer's staff, acting on behalf of this Commission, has requested your medical officer at Bridgeton, Barbados, to make physical examination of all laborers engaged there for canal work on the Isthmus of Panama and render proper medical certificates thereof.

In reply I beg to state that Mr. Karner's request has been approved by this Commission, and it is suggested that necessary orders be sent your medical officer at Bridgeton, through the proper channels, to make such examinations and the accompanying certificates.

Very respectfully,

J. G. WALKER,  
*Chairman of the Commission.*

WALTER WYMAN,  
*Surgeon-General, Public Health and Marine-Hospital Service,  
Treasury Department, City.*

TREASURY DEPARTMENT,  
BUREAU OF PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
Washington, D. C., March 17, 1905.

Approved and respectfully referred to the honorable the Secretary of the Treasury for approval.

W. WYMAN, *Surgeon-General.*

Approved:

H. A. TAYLOR, *Acting Secretary.*

WASHINGTON, D. C., March 21, 1905.

SIR: Referring to your letters of January 2 and 18, 1905, regarding the physical examination of laborers embarking from Barbados for the Canal Zone, stating that while waiting for the approval of the Bureau you would conduct these examinations, per request of Mr. W. J. Karner, a representative of the Isthmian Canal Commission, a copy of whose request was inclosed, you are informed that the Bureau approves of your action in the matter.

You are requested to keep records of all these examinations made, including causes of rejection, and transmit the same with your annual report to the Bureau. \* \* \*

Respectfully,

WALTER WYMAN, *Surgeon-General.*

ASST. SURG. WILLIAM K. WARD,  
*Public Health and Marine-Hospital Service.*  
(Care American Consulate, Bridgeton, Barbados, West Indies.)

BARBADOS.

REPORT BY ASST. SURG. WILLIAM K. WARD.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Barbados, West Indies, July 26, 1905.*

SIR: I have the honor to submit the following report of the transactions at this port from August 14, 1904, to June 30, 1905:

On August 14 I began the inspection of vessels and fumigated the first steamship on August 18.

The island of Barbados, the most windward of the Lesser Antilles, is of coral formation and has an area of about 166 square miles. On December 31, 1904, the population was estimated at 199,514. The death rate for 1904 per thousand of population was 23.3 and the birth rate 40. For the same period 25.1 out of every 100 infants born died during the first year of life. The temperature of this island ranges from 68 to 82° in the cool season, and from 73 to 88° in the hot season. The cool season begins in December and ends in May. The rainfall for a year averages from 45 to 60 inches. Barbados has a most delightful climate, and owing to the freedom from malaria has become the health resort of the inhabitants of the neighboring colonies and South America, and is fast becoming a sanitarium for many North Americans in need of rest. The almost perfect immunity against enteric fever and kindred diseases enjoyed by the people of this island is due in no small measure to an excellent and most abundant water supply which is unique. This water, which is under Government control, comes from two sources, first by gravitation from springs in the middle of the island, and secondly from the large pumping station at Bowmanston, in the parish of St. John, where cool, fresh water can be pumped by engines at the rate of 2,000,000 gallons a day from an underground stream, which always gives a larger quantity than can be pumped. Thence it is carried through over 300 miles of pipes to all parts of the island and is delivered free by means of standpipes placed on the roadside from a half mile to a mile apart. At a moderate cost the government will supply the dwelling houses and places of business with this water. There is no sewerage system, so called, but in Bridgeton the surface drains are flushed out each morning by a strong stream of water applied by hose.

Barbados is generally free from any of the quarantinable diseases excepting leprosy, which is in part segregated, and with the recent changes in quarantine inspection and general sanitation bids fair to remain so. There has been no yellow fever on this island since the epidemic of 1881. That much, however, can not be said of smallpox, as there was an epidemic in 1902-3, when 1,466 persons contracted the disease and 199 died. During this period 64 per cent of the inhabitants were vaccinated, and now that all infants before they reach the age of six months are required to be vaccinated, unless their parents, under oath, declare that they have serious scruples against it, the material for another epidemic is rapidly disappearing.

Communication between Barbados and the United States is maintained fortnightly by the Booth and the Lamport & Holt lines of steamships from Brazilian ports direct to New York, the latter line of vessels making the voyage within six days. The Booth Line steamships touch at this port on their return voyage direct from New York. About every ten days a steamship of the Quebec Line calls here from New York, via the Leeward and the Windward Islands, on her way to Demerara and returns to the United States by the same route. Irregularly the Prince and the Sloman lines from Brazilian ports call at Barbados on the way to New York direct. The Harrison and the Leyland lines, both from Liverpool, stop at this port every ten days on the way to Galveston or New Orleans, via Trinidad, La Guaira, Puerto Cabello, Savanilla, Carthagena, and occasionally Colon. Every three weeks the Glasgow Direct Line sends a steamship here on her way to Trinidad and Demerara and irregularly goes via these ports to Galveston or to New Orleans.

There is a fortnightly mail service between Barbados and Southampton, via Plymouth, by the Royal Mail Steam Packet Company by which three intercolonial steamships are also maintained. During the tourist season (the winter months) the intercolonial steamship on the northern route includes San Juan, Porto Rico, in her itinerary. On July 1 the British Government withdrew its subsidy so that in the near future, for commercial reasons, this company may greatly alter its service, especially the intercolonial branch. In addition, there are two other steamship lines that call at this port every fortnight, the Pickford & Black Line from St. Johns and Halifax, via Bermuda and the West Indies and return, and the Scrutton Line from London, via Dartmouth, which also maintains one intercolonial steamship.

This island, from its geographical position and the ease with which pure water and provisions may be obtained, is a port of call ten months in the year for most sailing vessels from Africa and South America seeking trade in Cuba or in the United States. There were 156 of these vessels, 25 under the American flag, which left this port during the ten and a half months covered by this report, destined to United States ports.

The inspection of vessels at this port just before their departure for a port in the United States has been the same, remembering that Barbados is free from any of the quarantinable diseases, as that pursued by the Service officers at other foreign quarantine stations. To November 1 all vessels were inspected, but since then only those which came from ports infected or suspected of being infected with quarantinable disease. Cabin passengers, whether in transit or embarking at this port, unless ill, were not inspected.

From August 29 to the close of the fiscal year I viséed 22 bills of health and issued 1,351 vaccination certificates.

During the tourist season the Royal Mail Steam Packet Company extended the route of its northern intercolonial steamship to San Juan, Porto Rico. The first vessel on this route left this port January 16, 1905, and the last departed March 27. These vessels, in accordance with custom, would leave La Guaira just three weeks before their arrival at Barbados, so that they were looked upon with suspicion by the chief quarantine officer of Porto Rico, as well as myself. Therefore, as a possible safeguard against yellow fever and smallpox, as well as to facilitate the passage of these steamships through quarantine at San Juan, with the approval of the Bureau and the hearty cooperation of the chief quarantine officer, I inspected each vessel for the possible presence of mosquitoes the morning of her departure from this port, and examined the crew and passengers on deck. Any passengers recently from yellow fever infected ports were given health certificates and, when necessary, the vessel was fumigated. Finally, when I was satisfied that all the necessary sanitary precautions had been taken, a certificate setting forth all the facts relative to the condition of the vessel, and the health of its passengers and crew was issued in addition to the bill of health just before the departure of the vessel. During the

season 5 steamships were inspected, 1 direct from La Guaira was fumigated to kill mosquitoes, and 20 health certificates were issued to cabin passengers. The steamship company was much pleased with the increased facilities permitted at San Juan under this arrangement.

There were found on vessels arriving at this port and subsequently leaving for United States ports, during the ten and one-half months covered by this report, 3 cases of smallpox, 12 of beriberi, 2 of tuberculosis of the lungs, and 1 of leprosy, as well as a number of less important diseases. Reports of these vessels were made on their departure, and were printed in the Public Health Reports, so that I shall not mention this subject further at this time.

Vessels from ports infected or suspected of being infected with yellow fever leaving Barbados for any port south of the southern boundary of Maryland, and expecting to reach that port at any time between April 1 and November 1, providing they could make the voyage from here within ten days, were fumigated with sulphur in accordance with the regulations for killing mosquitoes. This work was done under my personal supervision, the material and labor needed being furnished by the steamship agents. On its completion, after the temperatures of all the crew had been taken, a certificate giving all the facts was issued and the vessel required to depart at once. This work could not be extended to sailing vessels from ports under the same sanitary conditions as the average passage of these vessels from Barbados to United States southern ports is fourteen days. On the other hand, as sailing vessels from plague-infected ports on their arrival in the United States are required to discharge their ballast and be fumigated at quarantine and not infrequently to be held, the captains were rather chary in having the fumigation done at this port. In all, for the ten and one-half months since the opening of this station, 19 steamships and 5 sailing vessels were fumigated. No vessels were disinfected.

On December 20 the British steamship *Horatio* from Para, Brazil, in water ballast, with 34 crew and 5 passengers from Brazil, all well, left this port without fumigation, it being the open quarantine season in the United States, bound to Galveston, Tex. She arrived at that port with all well, and passed quarantine; twenty-four hours later (December 31) two of the crew developed yellow fever. No further cases occurred. Both men recovered.

On December 31 W. J. Karner, a representative of the Isthmian Canal Commission, arrived at Barbados to arrange for the shipping of laborers under a two-years' contract for work on the Panama Canal. I reported to the Bureau on January 2 this fact, as well as the desirability of the physical examinations of these men being made by a service officer. Later Mr. Karner requested that I include in my examination of these men for good vaccination marks a general physical examination, in order to insure that none but sound men be accepted by him. I complied with his request, began the work on January 14, and, with the approval of the Bureau, I was still continuing this work at the close of the fiscal year. During this period I examined 1,871 men and rejected 400. Of those examined, 958 came from Barbados, 320 from St. Lucia, and the rest from 12 of the neighboring islands and 9 countries in Europe, Africa, and the United States; 38 trades and professions were represented and 963 were laborers.

The method adopted in the examination of the men recruited for work on the Panama Canal was that pursued by the officers of this Service in the making of physical examinations with such modifications as the nature of the work required. Each man was divested of his clothing and thoroughly examined from head to foot, any personal peculiarities, deformities, moles, scars, etc., were noted and his name, age, place of birth, height, complexion, color of the hair and eyes, and occupation ascertained. If the man passed, the data obtained was arranged in the form of a certificate of physical health and identification, and this certificate was attached to his original contract. All men who passed had to be successfully vaccinated before they were permitted to ship. At first the certificates of vaccination issued to these contract laborers were the same as those issued to individuals, but subsequently the color was changed from white to pink and the words "contract labor for Colon" was printed across the top of the certificates issued to these men.

The general results of these examinations have been good. At first as high as 30 per cent of those examined were rejected, but later, as the character of the examination became better known, not infrequently only 10 per cent were rejected. Of those rejected, 2 had Ankylostomiasis, 28 some form of filariasis, 2 leprosy, 22 tuberculosis of the lungs, and 68 syphilis.

I was in temporary charge of the consulate at Barbados the last few days of the fiscal year while the consul was away on official business. This work was undertaken with the approval of the Bureau at the request of the consul and the consent of the Department of State.

Finally, before closing this report, I must thank the former consul at Barbados, who is now the consul-general at Singapore, for the uniform kindness shown to me during his stay here, and the present officer for many courtesies. My relations with the local government officers have been most cordial, and in matters of quarantine my advice has been asked and any suggestions have readily been accepted.

Respectfully,

WILLIAM S. WARD,  
*Assistant Surgeon.*

The SURGEON-GENERAL.

*Summary of transactions at Barbados, West Indies, from August 14, 1904, to June 30, 1905.*—Bills of health issued, 367; steamships inspected, 157; crews on steamships, 7,359; passengers on steamships, 3,897; steamships disinfected, 19; sailing vessels inspected, 97; crews on sailing vessels, 1,506; passengers on sailing vessels, 3; sailing vessels disinfected, 5.

#### CASTRIES ST. LUCIA.

#### REPORT OF TRANSACTIONS BY PASSED ASST. SURG. L. D. FRICKS.

CASTRIES ST. LUCIA, WEST INDIES,  
*July 1, 1905.*

SIR: In accordance with instructions contained in Bureau letter of March 17, 1905, detailing me for duty in the office of the American consular agent at Castries St. Lucia, West Indies, I have the honor to submit the following report of transactions from the date of my arrival, April 25, to the close of the fiscal year June 30, 1905:

Total number of bills of health issued, 37; number of vessels inspected only, 32; number of vessels fumigated, 5.

The bills of health issued were to vessels coming under the following classification:

Steamships from South American ports to ports north of the southern boundary of Maryland (inspected), 20; steamships from South American ports to ports south of the southern boundary of Maryland (fumigated), 5; empty coal ships returning from Castries, 4; steamships of the Quebec Steamship Line, 4; steamship from Durban, South Africa, to Delaware Breakwater, 1; steam yacht, 1; schooner to Porto Rico, 1; steam tug *Neptune*, to San Francisco, 1.

The colonial government and the coaling companies of Castries have facilitated the work contemplated in my detail in every way.

During the period covered by this report there has been no quarantinable disease upon the Island of St. Lucia, except leprosy. There are, perhaps, 25 cases of this disease upon the island, the greater part of which are found in the interior. No provision is made for segregating them by the colonial government.

Respectfully,

L. D. FRICKS,  
*Passed Assistant Surgeon.*

The SURGEON-GENERAL.

#### MEDICAL INSPECTION OF IMMIGRANTS.

During the fiscal year ended June 30, 1905, 1,026,499 aliens entered the United States, practically all of whom were medically examined by officers of the Service under the immigration laws. The foreign inspection of immigrants at Naples, Quebec, Japanese and Chinese ports, and Victoria and Vancouver, British Columbia, was continued, and a medical inspector was stationed at Winnipeg, Manitoba.

## ASTORIA, OREG.

Asst. Surg. Baylis H. Earle reports from Columbia River Quarantine, Astoria, Oreg., that during the year ending June 30, 1905, 38 aliens seeking admission to the United States were examined at that station, all of whom were passed.

One thousand eight hundred and three alien seamen aboard vessels of foreign countries arriving at Astoria were examined during the same year, 101 of whom were found to have diseases or physical imperfections requiring certification under the immigration law.

## BOSTON, MASS.

## REPORT OF MEDICAL INSPECTION OF ALIENS BY ACTING ASST. SURG. M. VICTOR SAFFORD.

[Transmitted by Surg. R. M. Woodward.]

BOSTON, MASS., July 5, 1905.

SIR: I transmit herewith the annual report of immigrants detained at Boston for the fiscal year ending June 30, 1905.

In further connection with the immigration work of the Service at this port I would also beg leave to mention the following matters of possible interest:

The passenger arrivals for the fiscal year were 80,862,<sup>a</sup> divided as follows: Saloon, 8,220; second cabin, 7,598; steerage, 64,853; stowaways, 191. In addition thereto 151 alien seamen applying for discharge, with the intention of remaining in the country, were examined with reference to their right to admission under the immigration laws.

The immigration of the port as reckoned by the Immigration Bureau was 66,646, this number being the number of aliens on whom the head tax was assessable, or, in other words, the alien arrivals less citizens of British North America, Cuba, and Mexico, and aliens in transit to contiguous foreign territory.

From the above figures it is thus seen that the passenger movement at the port is somewhat larger than last year and is now running along approximately three times as large as four years ago. Certain peculiar conditions also obtain here which make the mere matter of numbers of secondary importance in solving the problem of providing for the prompt medical examination of arriving aliens.

During the fiscal year 400 passenger-carrying ships arrived at the port. Frequently three or four of these ships arrive in a single day and dock at various widely separate points. There is no single station or shed where steerage passengers are examined, as at New York, Philadelphia, or Baltimore. Saloon, second-cabin, and steerage passengers must be examined either on ship-board or in the wharf sheds where the ships tie up.

Large passenger ships are frequently passed by quarantine after sunset, and while under such circumstances the examination of the steerage passengers is usually deferred until the next day. It is often necessary to attempt the examination of the saloon and second cabin late at night.

As the jurisdiction of the immigration office at Boston includes the New England coast as far west as New London, various small seaports must be covered in emergencies by medical officers attached to the Boston office.

Conditions at Boston are exceptional in the high proportion which saloon and second-cabin passengers bears to the steerage arrivals. During the past year this proportion was 25 per cent. Saloon passengers here are also subjected to a closer scrutiny than probably has as yet been attempted elsewhere. This is accomplished without arousing indignation or even comment by remembering that the immigration laws give medical officers of this Service no right to subject United States citizens to a medical examination and by waiting to see only those passengers whom the immigration officers do not pass as citizens. As from 90 to 94 out of every 100 passengers arriving in the saloon are citizens of the United States, the number who can legally claim the attention of the med-

<sup>a</sup> Passengers by water from Halifax and Yarmouth, being examined at present by United States immigration officers at the foreign port of embarkation, are not included in these figures.



ical officers is comparatively insignificant. At the Cunard and at the White Star Line docks the scheme of medical inspection is so arranged as to eliminate citizens from the steerage medical examination as well.

In the second cabin the proportion of citizens varies from 15 to 65 per cent, according to the ship and season of the year. Effort is also made here to eliminate citizens from the medical inspection, as should be done, but sometimes from the necessity of haste in beginning the inspection of the steerage the whole second cabin is paraded by the medical officers in circus-procession style before the immigration officers begin their examination.

Boston is also peculiar in that practically every case excluded by the local immigration authorities is taken up to the Department on appeal, and where a medical certificate is involved any possibility of doubt as to its correctness or any inaccuracy in its phraseology is practically certain to be taken advantage of by the attorneys for the aliens or the companies and their medical advisers.

In connection with the administrative work of the immigration station there are also certain matters which the medical officers seem obliged to take charge of and which really demand more time and attention than the examination of arriving passengers itself. Except for New York, Boston is the only port as yet where the custody of detained immigrants is assumed by the Government. During the year 5,205 detained passengers were brought to the detention station at Long Wharf. As recognized medical representatives of the Government on the ground, medical officers of this Service find themselves in a position of moral responsibility for the sanitary condition of the quarters, for liability of spread of contagious disease therefrom, and for the physical welfare, health, and comfort of the detained, even if such responsibility be not directly imposed by law or regulations.

Inability to effect arrangements with any single institution in the city to receive all aliens arriving or detained who may be in need of hospital treatment makes it necessary to distribute such aliens around in various institutions in the vicinity, according to the varying nature of the maladies with which they may be afflicted. It thus often happens that the medical officer finds it necessary to keep posted on the condition of aliens the decision on whose right to land is being held in abeyance by him and who are scattered about in five or six different institutions in this vicinity.

By virtue of a special contract between the State of Massachusetts and the United States with reference to the care and maintenance of aliens who may apply for admission to hospitals or other institutions of this State within two years after landing, the commissioner of immigration here is under the necessity of being kept constantly informed as to the condition of such cases in institutions all over the State. Massachusetts is the only State which has thus far taken advantage of the statutes by which such a contract is authorized, and consequently no such obligation to investigate the cases of landed aliens is directly imposed upon commissioners of immigration elsewhere. During the past fiscal year the cases of 342 such aliens, of whom 153 originally landed at Boston, were investigated and disposed of. Often some phase of the medical condition of these cases is of the utmost importance in determining whether or not the Government may terminate its liability for maintenance charges by ordering the alien's deportation. In these instances I am accustomed to visit the institution on request of the commissioner, and he and the Immigration Bureau accept my decision with respect to the medical features of the case as final.

While my traveling about the State and examining landed aliens with reference to determining their liability to deportation adds considerably to my work and is not contemplated by law, I believe it is a practice which should be continued.

#### MEDICAL EXAMINATION.

During the year the facilities for examining steerage passengers at the Cunard and at the White Star Line docks, the two docks where the largest numbers of passengers are handled, have been considerably improved, and are now fairly satisfactory for conducting such a medical examination as is in vogue at present. Passengers arriving by ships of other lines are examined on the ship's decks.

#### CERTIFICATION.

Pursuant to section 17 of the immigration act of March 3, 1903, requiring us to certify for the information of the immigration officers and boards of special inquiry any and all physical and mental defects observed, about 3,000 physically or mentally defective or diseased individuals were brought to the attention of

immigration officials during the past year. In so certifying the physical standard required of applicants for enlistment in the United States Navy has been adopted as the standard which immigrants should meet, and effort is made to see that every physical or mental condition (except as to teeth, sex, and age limitations, etc.) which would cause the rejection of an applicant for enlistment in the naval service should receive appropriate certification.

When the alien is afflicted with a disease calling for exclusion on statutory grounds or when his condition is deemed to be such as to be likely to render him temporarily or permanently unable to earn a living, certification is made on certificate form No. 8949, as provided by the Book of Instructions, and the alien is detained for special inquiry by reason of such medical certificate itself. As shown by the accompanying report, 599 such certificate cases were detained during the fiscal year.

Where the physical or mental defect is such as to call for the rejection of an applicant for enlistment in the naval service, yet is deemed insufficient to constitute presumptive evidence of inability to earn a living, certification is made on a slip attached to the alien's inspection card, and the question of holding for special inquiry or release is left to the judgment of the immigration inspector before whom the alien will come. To avoid overburdening boards of special inquiry the practice has also been adopted of certifying all ordinary cases of senility.

Where the alien has some obvious defect which would not call for rejection for enlistment in the Navy, but whose nature might not be understood by the immigration inspectors, a slip showing that the condition has not escaped the notice of the medical examiners is attached to the alien's inspection card.

During the past year there has been devised and put into successful operation at this station an index-card record of every case which calls for special attention on the part of the medical examiners, including cases where examination has been requested by immigration officials for any reason and where no physical or mental defect is found.

A holding arrangement has been devised enabling a carbon copy to be produced on an index card at the same time the defect slip is being filled out, and in this way it has been found practicable to maintain this card record with very little additional clerical work. These cards are filed away chronologically and by ships.

#### SPECIAL CONDITIONS REQUIRING CERTIFICATION.

*Insane persons.*—The detection of cases of insanity among arriving aliens has been forced into perhaps undue prominence from the fact that an alien who becomes insane within two years of landing will almost inevitably be brought to the attention of the immigration authorities, and from the fact that in order to insure the insane alien's deportation out of the country the term "causes prior to landing" is interpreted so broadly as to cover the case of practically every alien who becomes an inmate of an insane asylum within two years after landing. Probably only an insignificant proportion of aliens who become public charges from other causes are ever heard from. In the absence of any authoritative interpretation of the word "insane," as used in section 2 of the immigration act of March 3, 1903, I am accustomed to regard the term as applicable only to aliens exhibiting symptoms which would unquestionably lead to commitment to an insane asylum if the alien were landed, and to designate less pronounced departures from normal mentality by using some term which might seem applicable to the actual symptoms observed. With the interests concerned in the landing of aliens so watchful and well organized as they are at this port nothing could put an end to the official usefulness of an officer of this Service so quickly and effectually as to have a medical certificate discredited or overruled. Until definitely instructed to assume some other attitude, I shall therefore continue to regard as proper cases for certificate as "insane" only those cases in which the evidence of insanity is so conclusive and indisputable as to make it certain that the certificate will be upheld by a medical board of appeal and can be maintained against local "expert" opinion secured by those interested in landing the alien concerned. Such evidence is often particularly difficult to secure for the following reasons:

At present the only opportunity which the medical examiners have to observe the vast majority of arriving aliens is during the regular line inspection, when knowledge of the fact that they are undergoing an important medical examination and the stimulus of the excitement incident to landing and new surroundings tends to make their mental faculties appear at the best. Then, too, degenerative types and instances of poor nervous organization and low order of

Intelligence crowd upon the attention of the medical examiner so fast that he unconsciously tends to lower his standard of what constitutes normal appearance.

Even in the cases of those held up as suspicious the accepted tests for certain forms of insanity often lose much of their value from the incredible ignorance of some of our immigrants, in whom intellectual processes have often been but slightly developed.

The examination frequently has to be conducted through an interpreter, and either unintentionally or otherwise an interpreter is apt to conceal effectually the very features that the examiner desires to bring out.

Occasionally the landing of some erratic alien is opposed by relatives already here, but usually the influences encountered are determinedly bent on securing the alien's landing. If a mental suspect is held under observation, the cause of his detention is not long leaking out to the knowledge of the suspect himself and his friends, with the result that the chances of gaining his confidence or bringing out information as to his past are decidedly diminished.

During the year special attention has been given to this matter of the detection of symptoms of mental impairment among arriving passengers. Immigration inspectors have been constantly encouraged to return to the medical examiners aliens whose manner of responding to questions seems to be in any way queer, and some effort has been made to secure information as to passengers who might have attracted attention by eccentric conduct during the voyage across. Whenever there has appeared to be reason for believing that a period of detention might bring out definite evidence of mental impairment, such cases have been freely held for observation, occasionally as long as a week.

Passengers, steerage as well as cabin, normally tend to pay special attention to their personal appearance in preparation for landing, and this year, as in the past, those who have seemed to show by a dirty neck, unshaven face, unkempt hair, untidiness in dress, or apathetic manner lack of befitting regard for the importance of the occasion, as well as those whose appearance or manner in any way may have seemed out of keeping with that of the habitat and class to which the immigrant was recognized to belong, have been held up as mentally suspicious. More than usual effort has also been made to bring out evidence of mental peculiarities in those exhibiting the so-called stigmata of degeneration or whose appearance suggested a weak, nervous organization, but who otherwise did not attract special attention. Although this latter class furnished a substantial number of certificates for physical defects, efforts to bring out symptoms of actual mental disease among them almost invariably gave negative results. In fact, probably a good majority of all aliens held up during the year with special reference to their mental condition were finally released without sufficient evidence against them to warrant a certificate of mental disease or deficiency.

The work of the medical examiners in so far as it was successful in demonstrating instances of mental impairment is shown below, together with the net results of this work in preventing "non compos" aliens from entering the country.

Condition certified.	Number cases certified.	Deported.	Landed.
Hysteria, anemia, and crankiness .....	1	0	1
Chorea and very defective vision .....	1	0	1
Idiocy .....	1	1	0
Imbecility .....	1	1	0
Insanity .....	2	1	1
Mentally unbalanced .....	5	4	1
Mental and physical weakness .....	15	5	10
Mental dullness .....	2	1	1
Mental and physical weakness and hernia .....	2	0	2
Feeble-minded .....	8	8	5
Feeble-minded and partial paralysis .....	3	0	3
Mental weakness and dislocated hip .....	1	0	1
Mental weakness, valvular disease heart, and hernia .....	1	0	1
Defective mental and physical development .....	2	1	1
Mental dullness, poor physique, and hernia .....	1	0	1
Mental impairment and degeneration spinal cord .....	3	1	2
Nervous weakness (neurasthenia) .....	5	2	3
<b>Total</b> .....	<b>54</b>	<b>20</b>	<b>34</b>

\* Ex-United States soldier; finally released as United States citizen.

Most of the cases given above were held up primarily by the medical officers. Some passed the medical examination and were detected at the immigration inspectors' examination. In the cases where the demonstration of mental impairment was attended with difficulty, decisive evidence was finally brought out by special inquiry hearings more often than by the medical examiners themselves.

As appears above, a considerable number who were found by the medical examiners to have demonstrable mental impairment were permitted to land. It is held that unless an alien be specifically declared in a medical certificate to be "insane," or unless it can be proved that he has been insane within five years or has had two or more attacks of insanity at any time previously, he is excludable, if at all, only as an "alien likely to become a public charge." The mental incompetents shown above as admitted were decided by the legally constituted authority not to be aliens likely to become public charges. The validity of the evidence on which these decisions are based is, of course, a matter which does not concern us officially.

Of direct interest to us, however, is evidence from another source that the examination as at present conducted fails to recognize as defective on arrival aliens who do become public charges from insanity within a comparatively short time after landing. Twenty-six aliens who had been less than two years in the country and who originally landed at this port were returned for deportation as insane from various parts of the United States during the past year. Fourteen of them at least became inmates of asylums within six months of arrival.

From an examination of the records relative to the landing of these cases it would appear that none of them were held up on suspicion of mental weakness at the time of arrival. Six of them were certified for physical defects at that time, one for rheumatism, three for anæmia, and two for frail physique. One case, a young adult Italian, developed violent mania within a week after arrival. Even from such incomplete information as we were able to obtain relative to their antecedents, it appears that several of these aliens had had previous attacks of insanity.

There is an increasing tendency to hold the Service responsible for the disproportionate increase of the alien insane in this country, while I feel certain that we are now doing at this port all we can with the power and resources at our command to detect aliens which might come within this class. I believe our experience, as detailed above, suggests the means by which the effectiveness of our work might easily be increased. My suggestions, which would involve the approval and cooperation of the Immigration Bureau, are as follows:

(1) Adopt the plan formerly advocated by Colonel Weber when commissioner of immigration at New York, and supplement the present scheme of steerage examination by keeping an additional medical officer in the vicinity of the immigration inspectors' desks, where he can observe the passengers when they are waiting in line, off their guard, and unconscious that they are being watched, and also while they are being interrogated by the inspectors. A medical officer thus stationed would not only be in the most advantageous position to notice an individual exhibiting any peculiarity in his movements, demeanor, or speech, but also be at hand to advise inspectors relative to any other physical or mental defects which might come to their attention.

Add to the present scope of the ship surgeon's report by requiring mention to be made therein of passengers who may have attracted attention by eccentric conduct during the voyage, or who may have had supposed epileptic seizures.

(3) Insure by appropriate departmental instructions that the statistical divisions at the various immigration stations shall as a routine duty report on the condition of every passenger manifest with respect to the observance of sections 12, 13, and 14 of the act of 1903, noting all conspicuous failures to comply with these sections, including neglect to have entered in columns 21 and 22 of the manifest sheet obvious physical or mental defects found by the medical examiners on arrival to exist, and place such report in the hands of the commissioner in shape to be forwarded, also as a routine matter, to the Department for imposition of the penalties prescribed by law. Steamship companies look to their ship surgeons to furnish the information necessary to assure the correctness of columns 21 and 22 of the passenger manifests. Experience has taught that only by the systematic imposition of penalties provided by section 15 of the act can ship surgeons be stimulated to acquire that familiarity with their passengers requisite for the turning in of a reliable ship surgeon's report on arrival.

(4) Place in the hands of every immigration inspector a manual describing briefly the various forms of insanity, and giving hints as to their recognition

with as many illustrations as possible suggestive of characteristic symptoms. Such a manual is desirable particularly for two reasons. At the very best, medical examiners must to a great extent depend on the immigration officers to call attention to symptoms of mental impairment among arriving aliens. A medical examination designed to make the medical examiners independent of the immigration inspectors in this respect would cause an intolerable annoyance to regular commerce and travel. Then, too, the practical enforcement of the law makes it necessary for immigration inspectors to go into the matter of an alien's mental condition. The fact that an alien has been insane within five years or has had two or more attacks of insanity, even if discovered by the medical examiners, must be established by direct testimony entered of record before a board of special inquiry in order to serve as the basis of the alien's exclusion. Some sort of instruction is needed to enable immigration officers to perform this phase of their duty intelligently.

*Trachoma.*—At one time during the past year cases of trachoma arriving at this port by one steamship line became so numerous that the matter was made the subject of special report. For several months very few cases of trachoma have been found, but judging from past experience a period of comparative immunity from the imposition of penalties may be expected to be followed by the reappearance of conditions making the imposition of penalties again necessary.

In connection with the matter of rejections at ports of foreign embarkation, certain features of possible interest have come to our knowledge. It is not unusual at Liverpool to refuse passage on account of eye disease to 80 persons on ships sailing with less than 700 passengers. In several instances it has been reported to us that over 150 were so rejected. To some extent this points to the constant accumulation in England of persons who have tried to emigrate to this country from continental Europe, and after being refused by continental lines have drifted to Great Britain, the only country to which access is not denied them. But many rejected at Liverpool for what is referred to as trachoma have nothing more than mere acute indeterminable eye inflammations and are turned back in the hurry of the final medical examination because of desire to avoid the possibility of passing a chance case of incipient trachoma. Aliens continually arrive here with no evidence of eye disease and who freely admit that they have previously been rejected in Europe by the same or some other line on account of eye disease. Yet in spite of this apparent caution most of the cases of trachoma found at this side are plain, well-marked, chronic cases of the disease, and not infrequently it is discovered that they have already been deported from some United States port, thus indicating either a failure at the port of embarkation to insure an examination of all passengers or neglect of proper precautions to prevent those rejected from getting on board, or both.

Well-substantiated reports also frequently reach us of the existence both at Liverpool and Naples of a practice on the part of certain subagents of fleecing prospective emigrants out of their surplus cash by inducing them to submit to treatment for alleged trachoma. Sometimes this treatment takes the form of an application of adrenalin solution, which is supposed to affect trachoma so that the disease can not be recognized at the medical examination prior to embarkation. The price to the emigrant at Liverpool for such application is stated to be £2.

During the year a new element of variety has been introduced into the trachoma proposition from the fact that in two instances at least suits for breach of contract and damages have been brought against steamship companies by aliens who have been refused passage by the defendants in these suits on account of alleged trachoma and were subsequently accepted for passage by other lines and were permitted to land at the port of arrival on this side. The suits referred to are still pending.

During the year we have continued the practice of remanding back on ship-board cases of trachoma or other possibly communicable diseases found among the alien passengers on arrival. We have on our hands, however, at present one case of trachoma in a person whose right to land is awaiting the decision of the United States Supreme Court. As it has thus far been found impossible to secure the necessary authority for transference of custody in her case, she is now being kept at the detention station under such conditions of isolation from the other inmates as can be secured.

There has been a practice in the past, particularly among Italians, for men who were unable to secure passage as passengers on account of trachoma to ship as firemen or stewards and desert on arrival here. Measures have been taken to prevent this practice, but among the 227 members of the crews of ships

who deserted here during the year it is still probable that there were some afflicted with excludable diseases.

*Epileptics.*—Aliens of this class are now specifically denied admission to the country by law, but, as is shown by the accompanying report, no case of this disease has been certified during the year. During the brief period in which arriving aliens are within our control the chances of securing sufficient evidence to warrant a certificate of epilepsy are very small. Better results could undoubtedly be obtained if the enlargement of the scope of the ship surgeon's report were made to include also the reporting of possible epileptic seizures occurring among passengers during the voyage.

*Favus.*—It is interesting to note the comparative absence now among arrivals at this port not only of active cases of this disease, but also of persons whose scalps show evidence of recent treatment.

#### RESULTS OF THE MEDICAL-EXAMINATION WORK.

Out of 88 passengers presented by the immigration officers for medical examination and certified by the medical examiners for conditions specifically excludable by law, 79 were deported and 3 are pending at the end of the year; 4 were landed, and 2 escaped. Those who were landed were in every instance persons who were subsequently able to prove that they were "not aliens," and consequently exempt from the application of the immigration laws.

To take the classes of cases which were referred to the immigration authorities for consideration as "persons likely to become a public charge," out of 505 passengers presented by the immigration officers for medical examination and found by the medical examiners to have disease or a defective condition deemed likely to render them temporarily or permanently unable to earn a living, 68 were deported and 473, or 93 per cent, were landed. Of these so landed some were able to show that they were "not aliens," some were affluent alien residents of this country returning from a trip abroad, some were invalid tourists on visits here or in transit through this country, and even in the case of others of the regular immigrant type it may be said that decisions favorable to admission were based on evidence deemed sufficient to justify such decisions.

The disposition made of this class of cases at Boston is of interest, however, to the Service in relation to possible duty of acting in an advisory capacity at foreign ports of embarkation. In this connection the statement seems justified that, taken as a whole, the class of defectives now being accepted in Europe for passage to Boston may be considered as good business risks. The accuracy of the judgment of the agents of steamship companies in this matter is well illustrated by the disposition made on arrival here of the cases of serious disability enumerated below:

Condition certified.	Number of cases.	Disposition.	
		Landed.	Deported.
Anæmia, chronic.....	12	11	1
Anæmia and general debility.....	13	12	1
Blindness, total.....	4	4	0
Very defective vision, nearly blind.....	35	32	3
Cataracts, both eyes.....	24	22	2
Deaf and dumb.....	25	4	-----
Hernia.....	23	16	7
Various deformities and disabilities of lower extremities.....	53	51	2
Leg, loss of.....	8	2	1
Very poor physique.....	32	26	6
Poor physique, with complications—e. g., defective vision, hernia, anæmia, etc.....	13	9	4
Hand, mutilations and disabilities of.....	8	8	0

\* One case pending.

#### LANDED CASES.

During the year 344 aliens who had been less than two years in the country were reported to this office as inmates of hospitals and other institutions in the State of Massachusetts. One hundred and thirty-four were cases of accident or acute disease arising subsequent to landing, and their maintenance charges, as well as, in some instances, their deportation, were paid for by the United

States out of the immigrant fund. Seventy-one were certified by attending physicians of the institutions as public charges from "causes prior to landing," and were deported at the request of the State and at the expense of the steamship companies bringing them here.

Information relative to this class of cases is tabulated below :

*List of aliens reported by institutions in the State as public charges from "causes prior to landing," and for whom authority for deportation at the expense of the steamship companies was secured.*

Disease.	Less than one year in country.	More than one year in country.	Landed at port of Boston.	Landed at port of New York.	Landed at other ports.
Arterio-sclerosis.....		1	1		
Abscess, leg.....	1			1	
Anæmia.....	1		1		
Atrophy, arm.....	1			1	
Dropsy.....		1	1		
Epilepsy.....	1			1	
Insanity.....	38	5	18	22	3
Neurasthenia.....	1		1		
Pleurisy.....	1		1		
Rheumatism.....		1		1	
Syphilis.....	2		1	1	
Pulmonary tuberculosis.....	7		2	4	
Pulmonary tuberculosis and syphilis.....		1			1
Prolapsed uterus.....	1		1		
Valvular disease of heart.....	6		4	2	
Varicose veins.....	1		1		
Varicocele.....	1		1		
Total.....	62	9	33	33	5

Statistics for previous years show that over one-half of all aliens arriving destined to the State of Massachusetts land at the port of Boston.

#### HOSPITAL CASES.

Our practice of holding on shipboard observation cases and diseases which it is not desired to treat virtually limits our hospital admissions to actual cases of acute sickness. The number of such admissions has been 168 this year in contrast to 211 for the preceding. This low record for hospital admissions is due to the remarkable infrequency during the year of the accidents and sicknesses to which ship passengers are liable. It can not be reasonably expected that this record will again be approached with immigration at its present proportions. Bills for hospital maintenance are still rendered by the hospitals against the steamship company concerned, but are transmitted through this office.

#### DETENTION STATION.

After all the passengers of a ship have been examined at the landing place, and all special inquiry hearings have been completed, those passengers still remaining are brought to the detention station at Long Wharf, Boston, except that cases of possibly communicable or otherwise objectionable diseases not demanding immediate hospital treatment are left on shipboard, as also, generally, saloon and second-cabin passengers. The total number thus brought to the station during the year was 5,205. Occasionally for brief periods the number so detained at one time exceeded 300, but for the greater portion of the year the average number of inmates of the detention station did not exceed 150. A state of scrupulous cleanliness is constantly maintained with respect to every feature of these quarters. Every morning the inmates are mustered and subjected to an individual medical inspection. The watchmen and attendants are also required to report at once any symptoms of sickness coming to their notice during the day or night.

In December a mild case of smallpox was brought to the station late at night and was not detected until the next morning. One other inmate contracted the disease, but was removed to quarantine during the prodromal stage. Except

for this occurrence no case of contagious disease gained access to or was removed from the station during the year. The general health of those detained has also been decidedly better than last year. Authority was secured to introduce certain inexpensive features in the way of ventilation, and the previous air conditions in the dormitories have thereby been vastly improved. The male dormitory has a capacity of 204 beds, and so far as the room itself is concerned affords an initial air space of 94 cubic feet per head when fully occupied. Similarly the female dormitory, with 120 beds, figures out an initial air space of 75 cubic feet per head. Fortunately the dormitories are seldom occupied to their full capacity, and even then with the large number of windows and the liberal openings which have been made into corridors, adjacent rooms, and through the ceilings conditions are actually not as bad as the figures given might indicate.

I take pleasure in reporting that in the performance of our work Doctor Kurtz and myself have constantly received the unqualified support and encouragement of Commissioner Billings and of his deputy, Mr. Hurley. The same spirit also has been exhibited by every immigration inspector attached to the station, without exception. As we have no assistants directly under our own control, emergencies often arise when the smooth working of the medical inspection depends upon the assistance of the immigration officers. On such occasions they have invariably given us their cheerful cooperation.

Respectfully,

M. VICTOR SAFFORD,  
*Acting Assistant Surgeon.*

Respectfully forwarded.

R. M. WOODWARD, *Surgeon.*

BUFFALO, N. Y.

*Report of inspection of aliens at port of Buffalo, N. Y., during the year ended June 30, 1905, by Surg. C. T. Peckham.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July.....	195	19	19	Trachoma, 15; observation of eyes, 4.
August.....	197	9	9	Trachoma, 7; valvular disease of heart, 1; poor physique and septic leg, 1.
September.....	108	4	4	Trachoma, 4.
October.....	255	16	16	Favus and trachoma, 1; trachoma, 6; observation of eyes, 9.
November.....	348	11	11	Trachoma, 7; favus, 1; mental debility, 1; observation of eyes, 2.
December.....	134	8	8	Trachoma, 4; idiocy, 2; observation of eyes, 1; favus, 1.
January.....	183	12	12	Trachoma, 9; senility, 1; favus, 2.
February.....	48	6	6	Trachoma, 2; favus, 1; observation of eyes, 2; senility and debility, 1.
March.....	71	2	2	Trachoma, 1; favus and trachoma, 1.
April.....	132	12	12	Trachoma, 8; observation of eyes, 3; deformity, leg, 1.
May.....	145	4	4	Trachoma, 2; cellulitis, foot, 1; deformity, hip-joint disease, 1.
June.....	141	9	9	Trachoma, 7; pregnancy, 1; pregnancy and prostitution, 1.
Total.....	1,905	112	112	



## DETROIT, MICH.

*Report of inspection of aliens at port of Detroit, Mich., during the year ended June 30, 1905, by Surg. H. W. Austin.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July .....	29	1	0	
August .....	38	3	3	Trachoma, 1; hernia, 2.
September .....	71	3	2	Paranoia; dislocation of hip, congenital.
October .....	40	4	4	Trachoma.
November .....	101	2	2	Trachoma; mental deficiency.
December .....	54	0	0	
January .....	71	3	0	
February .....	46	2	2	Hernia; trachoma.
March .....	64	3	2	Trachoma; insanity.
April .....	75	5	4	Trachoma, 2; syphilis, 1; poor physique, 1.
May .....	99	4	0	
June .....	94	6	4	Trachoma, 1; psoriasis, 1; insanity, 1; poor physique, 1.
Total .....	782	36	23	

## DULUTH, MINN.

*Report of inspection of aliens at port of Duluth, Minn., during the year ended June 30, 1905, by Acting Asst. Surg. E. L. Cheney.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July .....	459	2	2	Poor mental and physical, 1; chancroids, 1.
August .....	330	3	2	Poor physique, 1; insanity, 1.
September .....	232	1	2	Asthma, 1; insanity, 1.
October .....	122	1	1	Trachoma.
November .....	179	-----	-----	
December .....	125	-----	-----	
January .....	0	-----	-----	
February .....	2	2	2	Illegitimate pregnancy, 1; insanity 1.
March .....	1	1	1	Insanity.
April .....	2	2	2	Insanity, 1; tuberculosis, ankles and legs, 1.
May .....	206	8	8	Trachoma, 3; poor physique, 1; traumatic iritis, 1; rheumatism, 1; insanity, 2.
June .....	238	6	5	Trachoma, 4; tuberculosis, pulmonary and hand, 1.
Total .....	1,806	26	25	

## EL PASO, TEX.

*Report of inspections of aliens at port of El Paso, Tex., during the year ended June 30, 1905, by Acting Asst. Surg. E. D. Sinks.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
November .....	1,776	4	-----	Trachoma, 3; hemorrhagic conjunctivitis, 1.
December .....	1,966	6	-----	Trachoma, 3; phthisis pulmonalis, 1; small-pox, 1; idiocy, 1.
January .....	2,351	4	-----	Trachoma, 4.
February .....	2,247	4	-----	Trachoma, 2; gonorrheal ophthalmia, 1; chronic conjunctivitis, 1.
March .....	2,478	4	-----	Trachoma, 3; favus, 1.
April .....	2,661	8	-----	Trachoma, 2; poor physique, 1.
May .....	2,539	4	-----	Trachoma, 4.
June .....	1,582	4	-----	Trachoma, 2; syphilis, 1; kerito-malacia, 1.
Total .....	17,580	33	-----	

## LAREDO, TEX.

*Report of inspection of allens at port of Laredo, Tex., during the year ended June 30, 1905, by Acting Asst. Surg. H. J. Hamilton.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July.....	215	2	2	Carcinoma, 1; active syphilis, 1.
August.....	265	12	12	Trachoma, 9; gonorrhea, 2; chancroids, 1.
September.....	269	8	8	Trachoma, 7; alcoholism, 1.
October.....	271	10	10	Trachoma, 10.
November.....	218	32	32	Trachoma, 30; syphilis, 1; gonorrhea, 1.
December.....	225	13	13	Trachoma, 12; senile debility, 1.
January.....	188	13	11	Trachoma, 9; blind, with senile debility, 1; senile debility and blind one eye, 1.
February.....	177	12	12	Trachoma, 9; blind, 2; paraplegia, 1.
March.....	386	14	14	Trachoma, 9; deformed knee, 1; dementia, 1; blind, 1; deaf-dumbness, 1; hydrocephalus, 1.
April.....	175	8	8	Trachoma, 1; measles, 1; paraplegia, 1; deaf-dumbness, 1; hemiplegia, 1; poor physique, 2; loss of one leg, 1.
May.....	138	5	5	Trachoma, 3; syphilis, 1; poor physique, 1.
June.....	163	9	9	Trachoma, 7; acute catarrhal conjunctivitis, 1; suspicion of disease of eyes, 1.
Total.....	2,640	138	136	

## LOS ANGELES, CAL.

*Report of inspection of aliens at port of Los Angeles, Cal., during the year ended June 30, 1905, by Surg. J. O. Cobb.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July.....	29	-----	-----	
August.....	72	-----	-----	
September.....	23	-----	-----	
October.....	68	-----	-----	
November.....	56	-----	-----	
December.....	55	-----	-----	
January.....	27	-----	-----	
February.....	67	-----	-----	
March.....	13	-----	-----	
April.....	35	-----	-----	
May.....	28	-----	-----	
June.....	151	-----	-----	
Total.....	624	-----	-----	

## MALONE, N. Y.

*Report of inspection of allens at port of Malone, N. Y., during the year ended June 30, 1905, by Acting Asst. Surg. S. D. Williamson.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July.....	25	0	0	
August.....	52	2	0	
September.....	48	2	2	Trachoma, 2.
October.....	33	0	0	
November.....	26	0	0	
December.....	40	0	0	
January.....	29	2	0	
February.....	21	0	0	
March.....	3	0	0	
April.....	20	0	0	
May.....	25	0	0	
June.....	80	0	0	
Total.....	402	6	2	

## MOBILE, ALA.

*Report of inspection of aliens at port of Mobile, Ala., during the year ended June 30, 1905, by Surg. J. H. White.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July.....	18	.....	.....	
August.....	51	.....	.....	
September.....	41	.....	.....	
October.....	28	.....	.....	
November.....	18	.....	.....	
December.....	22	.....	.....	
January.....	36	.....	.....	
February.....	25	.....	.....	
March.....	27	.....	.....	
April.....	44	.....	.....	
May.....	38	.....	.....	
June.....	37	.....	.....	
Total.....	365	.....	.....	

## NEW YORK, N. Y.

*Report of inspection of aliens at port of New York during the fiscal year ended June 30, 1905, by Surg. George W. Stoner.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.								
				Class I.		Class II.		Class III.		Class IV.		
				Trachoma.	Tubercle of lungs.	Insanity.	Idiocy.	Epilepsy.	Favus.	Syphilis.	Gonorrhoea.	All other diseases and injuries.
July .....	45,390	505	126	49	5	8	2	.....	.....	.....	.....	67
August .....	46,478	592	110	42	1	8	.....	.....	5	.....	.....	59
September .....	54,804	635	95	34	2	2	5	1	.....	.....	.....	46
October .....	57,418	643	91	40	4	6	3	1	.....	2	.....	33
November .....	55,863	508	112	61	3	3	3	.....	3	1	1	37
December .....	49,945	444	123	66	1	2	1	1	5	1	.....	46
January .....	46,236	332	142	46	.....	4	2	.....	3	4	.....	81
February .....	53,189	338	125	47	2	5	.....	1	2	3	.....	65
March .....	105,134	553	182	42	1	6	1	.....	7	1	.....	124
April .....	112,068	436	168	24	8	8	1	3	10	1	.....	113
May .....	104,983	539	259	49	4	8	1	3	6	1	.....	187
June .....	89,575	811	358	74	4	7	2	1	6	3	.....	261
Total .....	821,108	6,436	1,891	574	35	57	21	13	54	17	1	1,119

## NEW ORLEANS.

*Report of inspection of aliens at port of New Orleans, La., during the year ended June 30, 1905, by Surg. A. C. Smith.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July.....	219	1	0	Anchylosis of left knee, 1.
August.....	128	2	1	
September.....	284	2	0	
October.....	1,617	23	11	Trachoma, 3; anchylosis of knee, 1; deficiency thigh, 1; goiter, 1; poor physique, 1; senility, 3; post curvature of spine, 1.
November.....	166	2	1	Trachoma, 1.
December.....	124	2	1	Syphilis, secondary, 1.
January.....	110	1	1	Trachoma, 1.
February.....	99	0	0	Trachoma, 2.
March.....	236	2	2	
April.....	163	1	Pending.	Trachoma, 5.
May.....	1,018	9		Trachoma, 1.
June.....	141	3	1	
Total.....	4,305	48	23	

## PHILADELPHIA, PA.

*Report of aliens inspected at port of Philadelphia, Pa., during the year ended June 30, 1905, by Past Asst. Surg. Taliaferro Clarke.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July.....	1,967	38	2	Senile debility, 1; trachoma, 1.
August.....	1,554	67	16	Favus, 1; trachoma, 14; pregnancy (medical contributory), 1.
September.....	2,819	106	26	Favus, 1; trachoma, 16; other causes, 9.
October.....	3,235	97	15	Trachoma, 12; other causes, 3.
November.....	1,813	48	8	Trachoma, 6.
December.....	1,789	47	6	Favus, 3; trachoma, 11; other causes, 2.
January.....	1,452	22	2	Trachoma, 2.
February.....	1,002	31	4	Hernia, 1; trachoma, 3.
March.....	1,944	30	4	Trachoma, 2; other causes, 2.
April.....	3,378	85	13	Trachoma, 3; other causes, 7.
May.....	2,291	53	5	Trachoma, 3; other causes, 2.
June.....	1,685	44	5	Trachoma, 1; other causes, 4.
Total.....	24,319	658	111	

## THE DETECTION AND DIAGNOSIS OF INSANITY BY OFFICERS OF THE SERVICE.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
Philadelphia, Pa., December 29, 1904.

SIR: Through the medical officer in command I have the honor to send herewith a memorandum regarding the detection of insanity by officers of the Public Health and Marine-Hospital Service with tables compiled from the annual reports showing the number of cases of different types of insanity treated in all the hospitals of the Service in the fiscal years 1903 and 1904.

The records show that of the 71 insane and feeble-minded immigrants excluded during the last year, about 50 per cent were detected at the port of New York. As 75 per cent of all immigrants are inspected at that port the disparity seems to show that the more extended examination which the smaller number of immigrants at other ports permits results in the detection of relatively many more cases of insanity.

Respectfully,

THOMAS W. SALMON,  
Assistant Surgeon.

Respectfully forwarded.

FAIRFAX IRWIN, Surgeon.

The SURGEON-GENERAL.

[Inclosures.]

## MEMORANDUM.

To show that insanity is by no means an uncommon disease among the patients treated at the various marine hospitals, the following tables are inserted. It will be seen that in the year ended June 30, 1904, 38 cases of acute insanity of a number of different types were admitted to the hospitals of this Service. Although not a large number compared with the admissions of public institutions devoted exclusively to the care of the insane, it is larger than the number of cases of mental diseases admitted to several of the general hospitals which have wards devoted entirely to that class of disease, and is about one-fourth the number admitted last year to the Pennsylvania Hospital for the Insane, a large and widely known institution in Philadelphia. During the fiscal year 1903 48 cases of insanity were admitted for treatment.

During the year ended June 30, 1904, 71 insane and feeble-minded persons were detected among alien immigrants by officers of the Public Health and Marine-Hospital Service and excluded by the Immigration Service.

*Cases of insanity treated during the fiscal years 1903 and 1904.*

	1903.				1904.			
	Re- main- ing.	Ad- mitted.	Treat- ed in dispen- sary.	Total.	Re- main- ing.	Ad- mitted.	Treat- ed in dispen- sary.	Total.
Mania .....	14	4	1	19	12	9	1	22
Melancholia .....	16	6	13	35	15	9	2	26
Dementia .....	7	8	1	16	8	4	0	12
Mental stupor .....	0	4	1	5	1	3	0	4
Delusional insanity .....	3	7	2	12	2	3	0	5
General paralysis of the insane .....	3	1	0	4	2	7	0	10
Total .....	43	30	18	71	40	35	3	79

## PORT HURON, MICH.

*Report of inspection of aliens at port of Port Huron, Mich., during the year ended June 30, 1905, by Acting Asst. Surg. W. S. Henderson.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July .....	35	2	2	Trachoma. Liable to become a public charge.
August .....	20	2	1	
September .....	12	0	0	
October .....	28	0	0	
November .....	38	0	0	Trachoma. Insane, 1; idiot, 1.
December .....	51	1	2	
January .....	18	2	2	
February .....	10	2	2	
March .....	14	0	0	Trachoma. Do.
April .....	10	1	1	
May .....	32	1	1	
June .....	38	2	2	
Total .....	306	13	10	

## SAN FRANCISCO, CAL.

*Report of inspection of aliens at port of San Francisco, Cal., during the year ended June 30, 1905, by Passed Asst. Surg. F. E. Trotter.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July.....	1,202	22	2	Trachoma, 1; insane, 1.
August.....	1,446	15	3	Tubercle of lungs, 1; trachoma, 1; senility and cataracts, 1.
September.....	710	10	3	Beriberi, 2; tubercle of lungs, 1.
October.....	1,584	43	13	Trachoma, 11; insane, 1; deaf and dumb, 1.
November.....	1,420	58	21	Trachoma, 20; leucoma, 1.
December.....	1,024	49	12	Trachoma, 12.
January.....	649	54	23	Trachoma, 23.
February.....	615	205	41	Trachoma, 41.
March.....	475	56	30	Trachoma, 29; senility and debility, 1.
April.....	1,097	132	42	Trachoma, 41; leucoma, 1.
May.....	1,381	107	8	Trachoma, 8.
June.....	977	84	15	Trachoma, 13; scabies, 1; tabes dorsalis, 1.
Total.....	12,580	835	213	Trachoma, 200; insane, 2; tubercle of lungs, 2; beriberi, 2; scabies, 1; leucoma, 2; tabes dorsalis, 1; senility and debility, 1; senility and cataracts, 1; deaf and dumb, 1.

## SAULT STE. MARIE, MICH.

*Report of inspection of aliens at port of Sault Ste. Marie, Mich., during the year ending June 30, 1905, by Acting Asst. Surg. W. Townsend.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July.....	48	44	4	Disease of eyes; held for observation.
August.....	59	51	8	Disease of eyes; held for observation, 7; trachoma, 1.
September.....	57	43	14	Disease of eyes; held for observation and trachoma, 1; observation for fever, 1.
October.....	50	36	14	Disease of eyes; held for observation; trachoma, 2.
November.....	76	61	15	Observation of eyes; trachoma, 3; itch, 1.
December.....	79	69	10	Observation of eyes; trachoma, 1.
January.....	93	72	21	Observation of eyes; trachoma, 8.
February.....	39	38	1	Conjunctivitis.
March.....	107	100	7	Observation of eyes; trachoma, 1.
April.....	85	83	2	Observation of eyes; conjunctivitis.
May.....	142	130	12	Observation of eyes; poor physique; alcoholism; heart trouble.
June.....	127	123	4	Observation of eyes; bronchitis (observation).
Total.....	962	850	112	

## SEATTLE, WASH.

*Report of inspection of aliens at port of Seattle, Wash., during the year ended June 30, 1905, by Passed Asst. Surg. J. W. Amessee.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July.....	78	1	1	Syphilis.
August.....	238	0	0	
September.....	54	0	0	
October.....	267	0	0	
November.....	5	0	0	
December.....	158	0	0	Trachoma, 4. Trachoma, 3. Jaundice, 1; trachoma, 8; bubo, 1; ch. otitis media, 1; debility, 1. Trachoma, 2; valvular disease of heart, 1. Pleurisy, 1; gonorrhea, 1; trachoma, 4; syphilis, 1; scabies, 1.
January.....	148	0	0	
February.....	235	4	4	
March.....	149	3	3	
April.....	237	12	12	
May.....	121	3	3	
June.....	221	8	8	
Total.....	1,951	31	31	

## TACOMA, WASH.

*Report of inspection of aliens at port of Tacoma, Wash., during the year ended June 30, 1905, by Acting Asst. Surg. F. J. Schug.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July.....	110	17	17	Trachoma, 15; tuberculosis, 1; enlarged spleen, 1. Gonorrhea. Blind right eye, 1; blind left eye, 1. Insane. Chinese, 2; trachoma, 18; gonorrhea, 1. Trachoma, 2; synovitis left knee, 1; in sane, 1.
August.....	144	3	3	
September.....	112	2	2	
October.....	76	1	1	
November.....	107	21	21	
December.....	83	4	4	
January.....	62	1	1	
February.....	4	2	2	
March.....	52	1	1	
April.....	2	7	7	
May.....	124	7	7	
June.....	.....	.....	.....	
Total.....	886	59	59	Physical deformity of left thigh. Goiter, 1; trachoma, 6.

## SAN JUAN, P. R.

*Report of inspection of aliens at port of San Juan, P. R., during the fiscal year ended June 30, 1905, by Passed Asst. Surg. W. W. King.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July.....	87	.....	.....	
August.....	66	.....	.....	
September.....	105	.....	.....	
October.....	182	.....	.....	
November.....	176	1	0	
December.....	118	1	0	
January.....	173	.....	.....	
February.....	113	.....	.....	
March.....	72	.....	.....	
April.....	102	.....	.....	
May.....	92	.....	.....	
June.....	87	.....	.....	
Total.....	1,323	2	0	

PONCE, P. R.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
Ponce, P. R., July 7, 1905.

SIR: Through the chief quarantine officer for Porto Rico, I have the honor to make the following report of medical inspection of immigrants at this port during the fiscal year ended June 30, 1905: Total number inspected, 293; total number passed, 292; total number rejected, 1.

Very respectfully,

JULIO FERRER TORRES,  
Acting Assistant Surgeon.

The SURGEON-GENERAL.

MAYAGUEZ, P. R.

*Report of inspection of aliens at port of Mayaguez, P. R., during the fiscal year ended June 30, 1905, by Acting Asst. Surg. R. Lange Miranda.*

Month.	Number Inspected.	Number certified.	Number deported.	Cause of deportation.
July.....	18	-----	-----	
August.....	10	-----	-----	
September.....	16	-----	-----	
October.....	12	-----	-----	
November.....	11	-----	-----	
December.....	6	-----	-----	
January.....	6	-----	-----	
February.....	5	-----	-----	
March.....	2	-----	-----	
April.....	17	-----	-----	
May.....	9	-----	-----	
June.....	11	-----	-----	
Total.....	123	-----	-----	

## PHILIPPINE ISLANDS.

REPORT BY PASSED ASST. SURG. V. G. HEISER.

TREASURY DEPARTMENT,  
PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF CHIEF QUARANTINE OFFICER FOR PHILIPPINE ISLANDS,  
Manila, P. I., July 27, 1905.

SIR: I have the honor to transmit herewith the official reports of the inspection of aliens at the ports of entry in the Philippine Islands for the fiscal year ended June 30, 1905.

The close of this period marks the second year during which immigrants to the Philippine Islands have been medically examined upon arrival. The inspection is still done on the deck of the vessel which brings them. The entire lack of a suitable place to keep the immigrants under observation for even a few days in order to complete a diagnosis has been a serious handicap in conducting the inspection in a satisfactory manner. This drawback has become more apparent since the observation of Asst. Surg. R. H. Creel that immigrants are in the habit of instilling adrenalin into the eyes for the purpose of removing the physical signs of trachoma. The use of adrenalin in cases of trachoma removes almost all traces of the disease for a short time and renders the diagnosis correspondingly difficult. An effort will be made during the present fiscal year to have the inspections made under more favorable circumstances, so that the medical officer may be certain at least that no adrenalin has been instilled several hours before he makes his examination.

During the year there were 3,461 immigrants inspected at the several ports of entry of the Philippine Islands. Of this number 283 were certified, 246 of which were actually deported, which gives a percentage of 8½ rejections and 7½ deported. The difference of 37 in the number of rejections and actual deportations is accounted for as follows: Thirty-three of them are still pending because



they are cases of trachoma in Chinamen, and the question as to whether the immigration law applies to Chinamen is still awaiting decision by the Philippine authorities; 2 cases of trachoma were landed by direction of the governor-general, and the remaining 2 escaped from vessels while waiting deportation.

The foregoing figures will show that the percentage of deportations, as compared with the certifications, is larger than heretofore reported from any port at which the Service inspects arriving aliens. This is accounted for by the fact that the causes for certifications are almost all due to trachoma, and therefore fall into one of the absolutely excludable classes. The rejections by race were as follows: Japanese, 218; Chinese, 41; East Indians, 20; Portuguese, 3; Syrian, 1.

Unfortunately the percentage of rejections for the year was much higher than last year. With a view to ascertaining the cause for this increase, the undersigned, in January, in accordance with Bureau orders, visited the Japanese ports at which emigrants embark for the Philippines. This investigation showed beyond reasonable doubt that substitution was common—that is to say, sound persons would present themselves to the examining officer and upon being passed the certificate to that effect would be transferred to an emigrant who had not been inspected, but who actually wanted to go to the Philippines, and the latter, of course, would go aboard without hindrance.

Another reason for cases arriving in the Philippines was the fact that adrenalin was used at the port of embarkation, and on that account cases of trachoma were probably not detected. At one of the Japanese ports a hospital maintained by emigration agents for the treatment of cases of trachoma, or of suspected trachoma, in prospective emigrants was in active operation. The manner in which the examination for entrance into this hospital was made probably accounted for the large number of cases of trachoma that were observed at ports of arrival that apparently developed during the voyage. The writer saw an examining doctor pass his finger over the mucous membrane of the inverted eyelid of a marked case of trachoma and then repeat this operation immediately afterwards, without cleaning or disinfecting his fingers, with a prospective emigrant whose eyes were apparently normal. When it is remembered that diagnosis is obscured by treatment, and, in addition, that there is ample opportunity for nontrachomatous subjects to become infected before embarkation, it is not to be wondered at that trachoma should be found among immigrants at ports of arrival, even though the Service medical officer at port of embarkation has made a careful examination.

Suggestions with a view to correcting these conditions were made, and since that time the percentage of rejections at the ports of arrival in the Philippines has fallen to  $3\frac{1}{2}$  per cent.

Respectfully,

VICTOR G. HEISER,  
Passed Assistant Surgeon,

Chief Quarantine Officer for the Philippine Islands.

The SURGEON-GENERAL.

MANILA.

*Report of inspection of aliens at port of Manila, P. I., during the year ended June 30, 1905.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July.....	362	82	82	Trachoma, 82.
August.....	351	37	37	Trachoma, 36; valvular disease heart, mitral, 1.
September.....	245	14	14	Trachoma, 14.
October.....	327	69	68	Trachoma (1 trachoma escaped), 66; syphilis, 1; poor physique, tuberculosis (?), trachoma (?), 2.
November.....	290	8	6	Trachoma, 5; trachoma (?), 1; trachoma, aliens, landed, 2.
December.....	223	2	2	Trachoma, 2.
January.....	237	2	2	Trachoma, 2.
February.....	176	9	8	Trachoma (1 trachoma escaped), 8.
March.....	174	3	2	Trachoma, 2.
April.....	167	4	5	Trachoma, 5.
May.....	97	6	4	Trachoma, 4.
June.....	215	4	6	Trachoma, 6.
Total.....	2,824	240	236	

## ILOILO.

*Report of inspection of aliens at port of Iloilo, P. I., during the year ended June 30, 1905.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July.....	3	1	1	Trachoma, 1.
August.....	29	1	1	Trachoma, 1.
September.....	19	0	0	
October.....	45	10	5	Trachoma, 5.
November.....	20	11	0	
December.....	48	6	0	
January.....	17	1	1	Leprosy, 1.
February.....	6	2	0	
March.....	38	2	0	
April.....	34	4	0	
May.....	26	2	0	
June.....	59	1	0	
Total.....	344	41	8	

## CEBU.

*Report of inspection of aliens at port of Cebu, P. I., during the year ended June 30, 1905.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July.....	5	0	0	
August.....	4	1	1	Trachoma, 1.
September.....	3	0	0	
October.....	4	0	0	
November.....	0	0	0	
December.....	1	0	0	
January.....	3	1	1	Trachoma, 1.
February.....	3	0	0	
March.....	3	0	0	
April.....	14	0	0	
May.....	9	0	0	
June.....	8	0	0	
Total.....	57	2	2	

## ZAMBOANGA.

*Report of inspection of aliens at port of Zamboanga, P. I., during the year ended June 30, 1905.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July.....	0	0	0	
August.....	0	0	0	
September.....	0	0	0	
October.....	10	0	0	
November.....	17	0	0	
December.....	4	0	0	
January.....	0	0	0	
February.....	4	0	0	
March.....	7	0	0	
April.....	3	0	0	
May.....	5	0	0	
June.....	0	0	0	
Total.....	50	0	0	

## JOLO.

*Report of inspection of aliens at port of Jolo, P. I., during the year ended June 30, 1905.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July.....	6	0	0	
August.....	27	0	0	
September.....	29	0	0	
October.....	0	0	0	
November.....	26	0	0	
December.....	11	0	0	
January.....	0	0	0	
February.....	24	0	0	
March.....	0	0	0	
April.....	18	0	0	
May.....	21	0	0	
June.....	24	0	0	
Total.....	186	0	0	

## CANADA.

## QUEBEC AND ST. JOHN.

*Report of inspection of aliens at ports of Quebec and St. John, Canada, during the year ended June 30, 1905, by Passed Asst. Surg. J. W. Kerr.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July.....	896	26	2	Class A, dangerous contagious diseases: Sub., 1; trachoma, 2.
August.....	790	75	18	Class A: Sub., 1; trachoma, 15; Class B: Pregnancy, 1; hydrocele of cord, 1; tachycardia, 1.
September.....	925	49	4	Class A: Sub., 1; trachoma, 3; Class B: Ankylosis both knees, 1.
October.....	722	19	6	Class A: Sub., 1; trachoma, 5; Class A: Sub., 4; idiocy, 1.
November.....	1,324	9	2	Class A: Sub., 1; trachoma, 1; Class A: sub., 2; favus, 1.
December.....	219	7	0	
January.....	146	4	3	Class A: Sub., 2; favus, 1; Class B: valvular disease heart, 1; Class B: hip-joint disease, 1.
February.....	208	2	0	
March.....	236	8	0	
April.....	629	7	0	
May.....	2,778	57	21	Class A: Sub., 1; trachoma, 18; Class A: sub., 2; scabies, 1; Class B: mental weakness, 1; Class B: defective vision, 1.
June.....	2,041	28	26	Class A: Sub., 1; trachoma, 23; Class B: Epilepsy, 1; poor physique, 1; tuberculosis glands of neck, 1.
Total.....	10,971	286	82	

\* Class B likely to become public charge.

## VANCOUVER, BRITISH COLUMBIA.

*Report of inspection of aliens at port of Vancouver, British Columbia, during the year ended June 30, 1905, by Acting Asst. Surg. J. H. Riggs.*

Month.	Number inspected.	Number certified.	Number excluded.	Cause of exclusion.
July.....	276	7	5	Class I, 2; Class IV, 3.
August.....	819	5	5	Class I, 1; Class IV, 4.
September.....	294	7	7	Class I, 6; Class IV, 1.
October.....	139	1	0	Class IV, 1.
November.....	811	1	1	Class I, 1.
December.....	125	3	3	Class I, 2; Class III, 1.
January.....	96	1	1	Class I, 1.
February.....	90	2	2	Class I, 2.
March.....	194	3	2	Class I, 2; Class IV, 1.
April.....	255	4	4	Class I, 4.
May.....	415	7	6	Class I, 4; Class II, 1; Class IV, 2.
June.....	270	11	11	Class I, 11.
Total.....	2,784	52	47	

\* Class I, dangerous contagious; Class II, insanity and idiocy; Class III, loathsome; Class IV, likely to become public charge.

## VICTORIA, BRITISH COLUMBIA.

*Report of inspection of aliens at port of Victoria, British Columbia, Canada, during the year ended June 30, 1905, by Passed Asst. Surg. M. W. Glover.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of deportation.
July.....	810	17	15	Class I (trachoma), 9; Class III (venereal disease), 3; Class IV, 3.
August.....	214	4	2	Class I (trachoma), 1; Class III (venereal disease), 1.
September.....	165	5	4	Class I (trachoma), 3; Class IV, 1 (likely to become a public charge).
October.....	141	6	3	Class I (trachoma), 1; Class III (venereal), 1; Class IV, 1.
November.....	108	2	1	Class IV, 1.
December.....	115	6	1	Class I (trachoma), 1.
January.....	38	3	0	
February.....	78	8	0	
March.....	94	4	1	Class I (trachoma), 1.
April.....	47	2	0	
May.....	120	14	11	Class I (trachoma), 9; Class III (venereal disease), 1; Class IV, 1.
June.....	81	7	4	Class I (trachoma), 3; Class III (venereal disease), 1.
Total.....	1,511	78	42	Class I (trachoma), 28; Class III (venereal disease), 7; Class IV, 7.

## NAPLES, ITALY.

REPORT BY ASST. SURG. GEN. J. M. EAGER.

TREASURY DEPARTMENT,  
PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
Washington, D. C., September 1, 1905.

SIR: I have the honor to submit the following report of the Service at Naples, Italy, covering the period of the fiscal year from July 1, 1904, to April 14, 1905, inclusive, the latter date being the last day of my service at that port.

During the period under consideration the inspection of vessels leaving Naples, Italy, for United States ports was continued. The inspection preliminary to granting the bill of health was of especial importance because of the prevalence of smallpox in regions from which emigrants depart for Naples en route for America. The extent of the prevalence of smallpox in remote parts of southern Italy is often difficult to ascertain, and hence vaccination of all emigrants prior to departure was insisted upon with the support of the Italian

Government. Incidentally to the inspection of steerage passengers, preliminary to granting the bill of health, a close lookout was kept for diseases and deformities rendering the emigrant unfit to enter the United States under the immigration law, and recommendations were accordingly made to the steamship companies. At the request of the Italian Government a second commissioned officer was early in the fiscal year assigned to duty at the American consulate, Naples, the work of inspection having assumed such proportions that this addition was deemed necessary. During the year the new disinfecting station for emigrants, conducted under supervision of the Italian Government, was put into full operation and other arrangements made to increase the comfort of departing steerage passengers and the facilities for the examination of emigrants and the inspection and handling of their baggage.

J. M. EAGER,

*Assistant Surgeon-General.*

The SURGEON-GENERAL.

## JAPAN.

## YOKOHAMA.

*Report of inspection of aliens at Yokohama, Japan, during the year ended June 30, 1905, Passed Asst. Surg. Dunlop More.*

Month.	Number inspected.	Number certified. <sup>a</sup>	Number deported.	Cause of rejection.
July.....	51,173	5434	Not known	Trachoma.
August.....	5704	5439	do	Do.
September.....	51,879	51,190	do	Do.
October.....	857	550	do	Do.
November.....	1,107	772	do	Do.
December.....	845	406	do	Do.
January.....	1,371	1,021	do	Do.
February.....	1,415	864	do	Do.
March.....	1,271	781	do	Do.
April.....	1,089	429	do	Do.
May.....	1,088	236	do	Do.
June.....	902	577	do	Do.
Total.....	18,711	7,639		

<sup>a</sup> As free from any loathsome or any dangerous contagious disease.<sup>b</sup> Approximate.

## CHINA.

## HONGKONG.

*Report of inspection of aliens at port of Hongkong, China, during the year ended June 30, 1905.—Passed Asst. Surg. M. J. White.*

Month.	Number inspected.	Number certified.	Number rejected.	Cause of rejection.
July.....	626	418	208	Trachoma, 201; scabies, 5; gonorrhea, 1; ringworm, 5.
August.....	264	115	149	Trachoma, 149.
September.....	499	248	251	Trachoma, 249; scabies, 2.
October.....	532	275	257	Trachoma, 251; scabies, 4; chancroid, 1; consumption, 1.
November.....	183	65	118	Trachoma, 118.
December.....	257	132	125	Trachoma, 123; scabies, 2.
January.....	105	80	25	Trachoma, 25.
February.....	29	28	1	Trachoma, 1.
March.....	108	100	8	Trachoma, 8.
April.....	724	632	92	Trachoma, 89; scabies, 3.
May.....	316	281	35	Trachoma, 34; scabies, 1.
June.....	180	119	11	Trachoma, 10; scabies, 1.
Total.....	3,778	2,493	1,280	Trachoma, 1,258; scabies, 18; gonorrhea, 1; consumption, 1; chancroid, 1; ringworm, 1.

## SHANGHAI.

*Report of inspection of aliens at port of Shanghai during the year ended June 30, 1905, by Acting Asst. Surg. S. A. Ransom.*

Month.	Number inspected.	Number certified.	Number deported.	Cause of rejection.
July.....	6	6	-----	
August.....	11	10	1	Trachoma.
September.....	10	6	4	Trachoma, 3; favus, 1.
October.....	8	8	-----	
November.....	4	4	-----	
December.....	2	2	-----	
January.....	3	2	1	Trachoma.
February.....	1	1	-----	
March.....	4	4	-----	
April.....	5	5	-----	
May.....	5	5	-----	
June.....	7	6	1	Do.
Total.....	61	54	7	

## CONCLUSION.

The foregoing reports cover the work of the Service coming under the bureau division of foreign and insular quarantine and immigration for the fiscal year.

Respectfully submitted.

W. J. PETTUS,  
*Assistant Surgeon-General.*

The SURGEON-GENERAL.

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## DIVISION OF DOMESTIC QUARANTINE.





## REPORT OF THE DIVISION OF DOMESTIC QUARANTINE.

By A. H. GLENNAN,

*Assistant Surgeon-General Public Health and Marine-Hospital Service, in Charge.*

SIR: I have the honor to submit the following report of the operations of the division of domestic quarantine of the Public Health and Marine-Hospital Service for the fiscal year ended June 30, 1905:

The inspection, detention, and disinfection, when necessary, of all vessels prior to entry has been continued at the national domestic quarantine stations upon the Atlantic, Gulf, and Pacific coasts of the United States. A proper surveillance upon the borders has also been maintained to prevent the introduction overland of quarantinable disease.

Five thousand seven hundred and eighty-eight vessels were inspected and 207 vessels disinfected during the fiscal year.

The enforcement of the Treasury quarantine regulations under the provisions of the act of Congress approved February 15, 1893, by the proper consular officers and officers of the Public Health and Marine-Hospital Service, when detailed in the office of the consul for that purpose, has been a distinct protection against the importation of quarantinable disease and an aid to the quarantine officers at the domestic stations in their sanitary scrutiny of arriving vessels. Delays to commerce are also avoided in the requirement at ports of departure that the sanitary regulations prescribed by this Department be fully complied with before the issuance of bills of health.

No serious outbreak of quarantinable disease has occurred during this fiscal year, and the Public Health and Marine-Hospital Service has rendered appropriate aid to State and local health authorities in the eradication of such diseases when requested.

While greatly improved conditions have prevailed upon the southern border of this country since the last annual report as regards the introduction overland of yellow fever, owing to the excellent sanitary precautions taken upon both sides of the Texas-Mexican border, some danger threatens the South Atlantic and Gulf coasts and the inland infectible territory of this country from the prevalence of yellow fever at Colon, an endemic seat of this disease, presenting sanitary and engineering problems sufficient time for which has not been given for the enforcement of measures to eradicate the infection of yellow fever. The difficulties from the quarantine officer's point of view are an open roadstead, limited wharfage, delay in unloading cargoes, and free communication with an infected littoral, with consequent danger of conveying the infection to Central American and other foreign ports with which rapid communication is had with ports of the United States.

## AID TO STATE AND LOCAL HEALTH AUTHORITIES.

While it is believed that the minimum maritime quarantine requirements prescribed under the quarantine laws and regulations are sufficient, nevertheless the State health and local quarantine officers are immediately informed of the outbreak of any quarantinable diseases at foreign ports as an aid and protection in the management of their local stations. This information is cabled to the Bureau by competent medical officers stationed at points of danger where such diseases might prevail, and although such information is published in the weekly Public Health Reports of this Service, it is also immediately dispatched to the health and quarantine officers as well.

The following correspondence indicates the activity of the Bureau in this direction:

[Telegrams.]

TREASURY DEPARTMENT, *August 11, 1904.*

COLLECTOR OF CUSTOMS,  
*New Orleans, La.*

Replying your letter August 4, steamship *Managua*, under Department circular No. 25, March 24, 1904, should have had special certificate of Department representative at Celba. Notify fruit vessel's owners that this regulation will be enforced. Make special report to Department on any failure to comply with this requirement, but do not detain vessels until after they have had time to act on this notification.

R. B. ARMSTRONG, *Assistant Secretary.*

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WASHINGTON, *August 11, 1904.*

C. H. ELLIS, *Manager United Fruit Company.*  
*New Orleans, La.:*

Doctor Robertson, at La Celba, has been directed to place on Government pay roll the two inspectors. Bureau insists on their being utilized and on the special certificate of Doctor Robertson. Secretary of the Treasury has wired collector of customs to notify you that without this said certificate vessels will not be entered. These inspectors are necessary to the enforcement of the special quarantine regulations made for the benefit of fruit vessels.

WYMAN, *Surgeon-General.*

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WASHINGTON, *August 12, 1904.*

GOLDTHWAITE, *Health Officer, Mobile, Ala.:*

Robertson instructed to place subinspectors on fruit vessels loading both for Mobile and New Orleans, paid by Government. Robertson's special certificate necessary for vessel to enter.

WYMAN, *Surgeon-General.*

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WASHINGTON, *May 25, 1905.*

GOLDTHWAITE, *Health Officer, Mobile, Ala.:*

Carson reports two yellow, one death, Belize.

GLENNAN,  
*Acting Surgeon-General.*

Repeated to Souchon, president State board health, New Orleans, La.; State Health Officer Tabor, Austin, Tex.

WASHINGTON, May 26, 1905.

President SOUCHON, *State Board Health, New Orleans, La.:*

Carter reports four yellow, one death, Puerto Cortez.

GLENNAN,

*Acting Surgeon-General.*

Repeated to Goldthwaite, health officer, Mobile, Ala.; State Health Officer Tabor, Austin, Tex.

WASHINGTON, June 10, 1905.

WILLE, *Quarantine, Biloxi, Miss.:*

Acting Assistant Surgeon Peters cables one yellow, Livingston, Guatemala.

GLENNAN.

*Acting Surgeon-General.*

Repeated to Porter, Key West, Fla.; Goldthwaite, health officer, Mobile, Ala.; Souchon, president State board health, New Orleans, La.; Tabor, State health officer, Austin, Tex.

#### UNIFORMITY IN BILLS OF HEALTH.

In order to secure accuracy in bills of health, as relates to the number of passengers and crew at ports of departure, the following circular was issued by the Department of State to secure uniformity in this matter, as will be seen in the correspondence upon this subject.

#### DEPARTMENT OF COMMERCE AND LABOR,

OFFICE OF THE SECRETARY,

*Washington, April 27, 1905.*

SIR: I have the honor to state that this Department is advised that there is a lack of uniformity as to the bills of health issued by consular officers, due, as has been suggested, to a difference in the construction placed upon the words "Number and sanitary condition of passengers and crew landed at this port," and "Number and sanitary condition of passengers and crew taken on at this port and sanitary condition of effects," in the bill of health.

The honorable the Acting Secretary of State, in order that consular officers may be definitely instructed, requests an expression of this Department's opinion whether consular bills of health should specify only the passengers who embark for the United States, or whether they should also include those who may embark for intermediate ports, and who leave the vessel before its arrival in the United States.

This Department would be glad to have, for the use of the Bureau of Navigation, such comments or opinion regarding the matter, as the Surgeon-General, Public Health and Marine-Hospital Service, may think proper to submit.

Respectfully,

V. H. METCALF, *Secretary.*

The SECRETARY OF THE TREASURY.

#### TREASURY DEPARTMENT,

OFFICE OF THE SECRETARY,

*Washington, May 6, 1905.*

SIR: Referring to your letter of the 27th ultimo regarding lack of uniformity in the bills of health issued by consular officers, due, as suggested, to a difference in construction placed upon the words "number and sanitary condition of passengers and crew taken on at this port and sanitary condition of effects," and Department acknowledgment of receipt thereof under date of May 4, I have the honor to inform you that the Surgeon-General of the Public Health and Marine-Hospital Service states that for the proper information of the quarantine officer at the port of arrival the original bill of health should state the correct number of the crew, including officers, etc., also the number of cabin and steerage passengers embarking, whether through or in transit.

On the supplemental bill of health the number and sanitary condition of passengers and crew landed at the port at which the vessel touches en route should

include every person landed at the port. The second statement of the number and sanitary condition of passengers and crew taken on at the port and sanitary condition of effects should also be a correct statement of all persons taken on at the port, including cabin and steerage passengers, whether through or in transit, and crew.

Unless these statements on the supplemental bill of health are correctly made it is impossible for the quarantine officer at the port of arrival to make the figures of these different statements tally, so that the correct number of persons of all kinds who should be on board can be ascertained by him.

Respectfully,

H. A. TAYLOR, *Acting Secretary.*

The honorable the SECRETARY OF COMMERCE AND LABOR.

[Circular.]

DEPARTMENT OF STATE,  
Washington, May 22, 1905.

*To the American consular officers at seaports.*

GENTLEMEN: The Department's attention has recently been called to a lack of uniformity in the issuance of bills of health by consular officers. In a letter dated the 9th instant, the Secretary of Commerce and Labor states that for the proper information of the quarantine officers at the port of arrival the original bill of health taken at the port of departure should show the correct number of the crew, including officers, and also the number of cabin and steerage passengers embarking, whether the destination of those passengers is a port of the United States or some intermediate port.

Supplemental bills of health taken at intermediate ports should specify the number and sanitary condition of all persons (passengers or members of the ship's crew) landed at those ports. They should also state the number and sanitary condition of all persons (passengers or members of the ship's crew) taken on at intermediate ports, whether the destination of those persons be a port of the United States or an intermediate port.

The statements mentioned are necessary in order that quarantine officers at the port of arrival in the United States may be enabled to make the different statements agree and to ascertain the exact number of persons of all classes who should be found on board the vessels. You will be careful hereafter to see that all blank spaces in bills and supplemental bills of health are properly filled out and contain the information required.

I am, gentlemen, your obedient servant,

HERBERT H. D. PEIRCE,  
*Third Assistant Secretary.*

#### AUTHORITY TO WITHHOLD BILL OF HEALTH.

[Decision of the Solicitor of the Treasury that consular officers have authority to withhold bill of health if national quarantine laws are not complied with.]

DEPARTMENT OF JUSTICE,  
OFFICE OF THE SOLICITOR OF THE TREASURY,  
Washington, D. C., May 27, 1905.

SIR: Surg. A. H. Glennan, Acting Surgeon-General, Marine-Hospital Service, desires to be informed whether, under the circumstances stated in the correspondence submitted by him to the Secretary of the Treasury, and by him referred to this Office, the master, agent, or owner of a vessel refusing to carry out the provisions of the United States quarantine laws and regulations, a consular officer would be justified in refusing a bill of health.

It appears from the correspondence that large numbers of emigrants embarking at Bremen, Germany, for this country are frequently presented for examination just prior to the sailing of the vessel, so that the proper inspection of the passengers and the necessary disinfection of the baggage is impossible.

Section 2 of the act of February 15, 1893, provides:

"That any vessel at any foreign port clearing for any port or place in the United States shall be required to obtain from the consul, vice-consul, or other consular officer of the United States at the port of departure, or from the medical officer where such officer has been detailed by the President for that purpose, a bill of health, in duplicate, in the form prescribed by the Secretary of the Treasury, setting forth the sanitary history and condition of said vessel, and that

it has in all respects complied with the rules and regulations in such cases prescribed for securing the best sanitary condition of the said vessel, its cargo, passengers, and crew; and said consular or medical officer is required, before granting such duplicate bill of health, to be satisfied that the matters and things therein stated are true."

Paragraph 5 of the Quarantine Laws and Regulations, made pursuant to the statute, provides:

"The officer issuing the bill of health shall satisfy himself, by inspection, if necessary, that the conditions certified to therein are true, and is authorized, in accordance with the law, to withhold the bill of health or the supplemental bill of health until he is satisfied that the vessel, the passengers, the crew, and the cargo have complied with all the quarantine laws and regulations of the United States."

I am satisfied that the United States consular officer of that port would not only have the power to withhold a bill of health, but, under the circumstances mentioned in the correspondence, it would clearly be his duty to do so.

The papers submitted are herewith returned.

Respectfully,

MAURICE D. O'CONNELL, *Solicitor.*

The SECRETARY OF THE TREASURY.

### AMENDMENT TO QUARANTINE REGULATIONS.

The following amendment to paragraph 4 of the quarantine regulations, under the act of Congress approved August 18, 1894, was promulgated relative to vessels plying between foreign ports, on or near the frontiers of the United States, to ports of the United States adjacent thereto:

TREASURY DEPARTMENT,

OFFICE OF THE SECRETARY,

Washington, October 27, 1904.

*To the officers of the Treasury Department, State, and local quarantine officers, and others concerned:*

Under authority of the act of Congress approved August 18, 1894, it is hereby declared that the provisions of paragraph 4, United States Quarantine Regulations, approved April 1, 1903, are extended to include vessels plying between ports in British Columbia and adjacent ports in the United States.

ROBERT B. ARMSTRONG,

*Assistant Secretary.*

### ESTABLISHMENT OF NEW QUARANTINE STATIONS.

PERTH AMBOY, N. J.

By a resolution adopted by the State board of health of New Jersey, approved by the attorney-general and governor of the State, the Public Health and Marine-Hospital Service was requested to assume charge of the quarantine-inspection service at Perth Amboy, N. J.

With the approval of the honorable the Secretary of the Treasury, Asst. Surg. W. A. Korn was detailed to that point, and the work of quarantine inspection was commenced July 19, 1904.

The correspondence and reports relative thereto follow:

WASHINGTON, July 11, 1904.

SIR: For some time the health authorities of the State of New Jersey have considered the advisability of requesting the General Government to assume charge of the quarantine-inspection service at Perth Amboy for their more efficient protection from the introduction of quarantinable disease.

At a meeting of the State board of health held June 16, 1904, resolutions were formally adopted to this effect, which resolutions have been approved by the attorney-general and the governor of the State. A copy of these resolutions is herewith inclosed.

It is proposed to detail a medical officer of the Public Health and Marine-Hospital Service for duty at Perth Amboy, N. J., to assume charge of the quarantine inspection, and it will be necessary to provide facilities for carrying on this work in the rental or purchase of a suitable boarding launch, the employment of one or two quarantine attendants, obtaining a suitable office, etc.

Your approval is, therefore, requested for the establishment of this quarantine-inspection service at the port of Perth Amboy, N. J., in accordance with the act of Congress approved February 15, 1893, the expenditures to be chargeable to the appropriation for preventing the introduction and spread of epidemic diseases.

Respectfully,

WALTER WYMAN,  
*Surgeon-General.*

The honorable the SECRETARY OF THE TREASURY.

Approved July 11, 1904:

R. B. ARMSTRONG, *Assistant Secretary.*

TRENTON, N. J., June 16, 1904.

DEAR SIR: At a meeting of the board of health of the State of New Jersey held December 18, 1903, the following resolution was adopted:

"Whereas bubonic plague has become firmly established in several of the Atlantic ports of South America, notably the port of Rio Janeiro, where the disease is now epidemic;

"Whereas no boat for boarding incoming vessels has been provided by the State for the use of the health officer of the port of Perth Amboy, and no protection whatever exists against the uninterrupted entrance of steam vessels which may choose to pass through the channel to the wharves of the city or up through the Kill van Kull to points farther north;

"Whereas this board has no confidence in the ability of the health officer of the port of Perth Amboy to defend the State against the introduction of cases of plague;

"Whereas the Public Health and Marine-Hospital Department has offered to take charge of the marine-quarantine service at the port of Perth Amboy and to fully relieve the State, at the expense of the United States Government, of the duty of preventing the admission at that point of persons affected with the dangerous infectious diseases,

"Resolved, That in the judgment of this board the public interests will be promoted by the resignation of the health officer of the port of Perth Amboy and by the transfer to the United States Public Health and Marine-Hospital Service of the duties pertaining to the prevention of the admission of infected persons or animals at that point."

The records of this office show that 5 vessels arrived in the port of Perth Amboy from the plague-infected port of Antofagasta, Chile, during the year ending September 30, 1903, and 6 vessels arrived from the same port during the previous year, and it therefore appears very desirable, in view of the facts set forth in the foregoing resolution, that your department shall take immediate charge of the marine quarantine of the port of Perth Amboy and provide the necessary protection against the admission of infection at that point.

Very respectfully,

HENRY MITCHELL, *Secretary.*

WALTER WYMAN, M. D.,  
*Surgeon-General, United States Public Health  
and Marine-Hospital Service, Washington, D. C.*

Approved:

FRANKLIN MURPHY.

I have read the foregoing copy of the letter of Doctor Mitchell, and I can say that I heartily approve of the action of the board of health therein quoted.

ROBERT A. MCCARTHY,  
*Attorney-General of New Jersey.*

## TREASURY DEPARTMENT,

*Washington, July 11, 1904.*

SIR: You are informed that through inspection of the quarantine service at Perth Amboy, N. J., by an officer of the Public Health and Marine-Hospital Service, it has been ascertained that the quarantine inspections at that port, as provided by the act of Congress approved February 15, 1893, and the regulations of this Department made thereunder and issued April 1, 1903, are worthless in character, subjecting not only the port of Perth Amboy and the State of New Jersey, but the United States to imminent danger of the importation of infectious disease.

You are further informed that the State board of health, the attorney-general of the State, and the governor have requested that the Public Health and Marine-Hospital Service assume the quarantine functions at this point and that, in accordance with section 8 of the act of Congress approved February 15, 1893, and also in accordance with authority of the appropriation act approved April 28, 1904, for the prevention of the introduction and spread of epidemic diseases, the Treasury Department has directed the detail of an officer of the Public Health and Marine-Hospital Service for the purpose of exercising the quarantine function at Perth Amboy.

You are therefore directed to give all possible aid and support in the carrying out of this necessary measure, and you will also require the certificate of the medical officer of the Public Health and Marine-Hospital Service detailed for quarantine duty at the port of Perth Amboy, before admitting to entry any vessel from a foreign port.

Respectfully,

R. B. ARMSTRONG,  
*Assistant Secretary.*

HON. ROBERT CARSON,  
*Collector of Customs, Perth Amboy, N. J.*

[Telegram.]

JULY 15, 1904.

Dr. HENRY MITCHELL,  
*Secretary State Board of Health,  
State House, Trenton, N. J.*

Asst. Surg. W. A. Korn has been ordered as quarantine officer to Perth Amboy, N. J., and arrives there to-day.

WYMAN.

WASHINGTON, July 20, 1904.

SIR: Receipt is hereby acknowledged of your letter of July 16, 1904, stating that a large number of vessels from foreign ports, after entering other domestic ports, as New York, Philadelphia, or Baltimore, and receiving pratique, arrive at Perth Amboy, N. J., and that these vessels are then coastwise and do not require inspection, unless you have reason to suppose that there is some sickness of a quarantinable nature on board. However, if these vessels expect to proceed from Perth Amboy to a port south of the southern boundary of Maryland, they should be fumigated by you upon request, and a certificate to that effect issued for the information of the quarantine officer at the port of arrival. \* \* \*

Respectfully,

WALTER WYMAN,  
*Surgeon-General.*

Asst. Surg. W. A. KORN,  
*Public Health and Marine-Hospital Service,  
Quarantine, Perth Amboy, N. J.*

## OREGON QUARANTINE SERVICE.

While this service has maintained and operated the principal quarantine station in this State at the mouth of the Columbia River, yet a number of minor inspection stations upon the coast were controlled by the State. For the sake of uniformity in the administration of quarantine measures upon that important coast, some correspondence occurred between this Bureau, Asst. Surg. Baylis H. Earle,

of the Public Health and Marine-Hospital Service, quarantine officer at Astoria, Oreg., and Governor George E. Chamberlain, relative to this matter.

The correspondence follows, and by arrangement, the nominations of quarantine officers were made effective July 1, 1905.

TREASURY DEPARTMENT,  
BUREAU OF PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
*Washington, December 1, 1904.*

SIR: Your letter dated November 17, 1904, containing copies of your correspondence with the governor of Oregon relative to the Service assuming charge of the entire quarantine service of the State of Oregon, is received. You are authorized to inform the governor that, with the approval of the honorable the Secretary of the Treasury, the service is willing to assume charge of the quarantine service of the State, and a bound copy of the quarantine laws and regulations is forwarded to you under separate cover for transmission to the governor. \* \* \*

Respectfully,

WALTER WYMAN,  
*Surgeon-General.*

MEDICAL OFFICER IN COMMAND,  
*Public Health and Marine-Hospital Service,  
Columbia River Quarantine, Astoria, Oreg.*

#### ASSUMPTION OF THE QUARANTINE FUNCTION IN ALL THE PORTS OF THE STATE OF OREGON BY THE PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.

The legislature of the State of Oregon having abolished the functions of the State quarantine service and passed a concurrent joint resolution asking that the Public Health and Marine-Hospital Service take charge of those functions in that State upon May 20, 1905, the Service has, under the provisions of the act of Congress approved February 15, 1893, and with the approval of the honorable the Secretary of the Treasury, agreed to undertake the operation of the quarantine service in that State upon the date mentioned, as will be shown by the following correspondence:

TREASURY DEPARTMENT,  
BUREAU OF PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
*Washington, January 10, 1905.*

THE SECRETARY OF THE TREASURY.

SIR: For some time the governor of the State of Oregon has had under consideration the turning over of the quarantine functions of that State to the Public Health and Marine-Hospital Service and recommending to the legislature of that State the abolishment of its local stations.

This Service has for a number of years maintained and operated the Columbia River quarantine station at Astoria, Oreg., its principal shipping point, where all vessels are carefully inspected and treated, if necessary, before being permitted entry. The State maintains a quarantine inspector at this point, but has no property or boarding facilities for the inspection and treatment of vessels.

The three other points of entry upon the Oregon coast are situated at Coos Bay, Umpqua Inlet, and Yaquina Bay. At the last-named place only an occasional vessel enters from a foreign port.

Your approval is therefore requested for the appointment of quarantine inspectors at these places when necessary, and that the Service assume full charge of the quarantine service of the State of Oregon, if tendered by the proper State authorities.

Respectfully,

WALTER WYMAN,  
*Surgeon-General.*

Approved January 11, 1905:

L. M. SHAW, *Secretary.*



TREASURY DEPARTMENT,  
BUREAU OF PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
Washington, January 21, 1905.

His Excellency GEORGE E. CHAMBERLAIN,  
Governor, Portland, Oreg.:

Replying to your telegram to Doctor Earle, Astoria, forwarded to this Bureau, desiring assurances that the United States will take charge of maritime quarantine and establish service at points now maintained by State, such assurance is hereby given and has been approved by the Secretary of the Treasury.

WALTER WYMAN,  
Surgeon-General.

[Twenty-third regular session Oregon legislature. Senate Bill No. 4.]

A BILL For an act to repeal sections 3906, 3907, 3908, 3909, 3910, and 3911 of Bellinger and Cotton's Annotated Codes and Statutes of Oregon.

*Be it enacted by the people of the State of Oregon,* That sections 3906, 3907, 3908, 3909, 3910, and 3911 of Bellinger and Cotton's Annotated Codes and Statutes of Oregon be, and the same are hereby, repealed.

NOTE.—The above-noted sections are those referring to the quarantine laws of the State of Oregon.

Concurrent Resolution No. 21. (Introduced by Senator R. A. Booth.)

Whereas by act of the legislature of Oregon, sitting in twenty-third biennial session, the law providing for State health officers at the ports of Astoria, Yaquina, Gardiner, and Coos Bay, was repealed; and

Whereas the action of the legislature in so doing was influenced by the promise of the General Government that health officers from the United States Public Health and Marine-Hospital Corps would be located at such ports; and

Whereas it is of the utmost importance for the protection of the health of the people of the State of Oregon that early action be taken by the Federal Government to the end that health officers of the Marine-Hospital Corps be at once stationed at the ports named: Therefore, be it

*Resolved by the senate (the house concurring),* That the secretary of the state be, and hereby is, requested to immediately notify the Surgeon-General of the action of the legislature in abolishing the office of health officer at the ports hereinbefore named, and solicit early action of the said Surgeon-General of the Public Health and Marine-Hospital Service in stationing an acting assistant surgeon of the Marine-Hospital Corps at said stations: And be it further

*Resolved,* That we earnestly urge that such acting assisting surgeon of the Marine-Hospital Corps be stationed also at the ports of the Siuslaw and Tillamook, on the coast of Oregon, to the end that the public health of the people of the State be subserved.

PORT INGLIS, FLA.

Upon the recommendation of Sanitary Inspector Joseph Y. Porter, Public Health and Marine-Hospital Service, an acting assistant surgeon was appointed, under Department approval, to inspect certain vessels arriving to load phosphate.

WASHINGTON, July 18, 1904.

SIR: From a recent report made by an inspector of this Service, it is ascertained that from Port Inglis, at the mouth of the Withlachooche River, about 65 miles from Anclote Key light-house, and about 20 miles from Cedar Keys, Fla., considerable shipments of phosphate rock are being made to foreign ports. During the present calendar year 19 foreign vessels have arrived at this place to load phosphate, the nearest point for quarantine inspection before being admitted to entry being Cedar Keys, Fla., situated 20 miles north of Port Inglis.

It is recommended that an acting assistant surgeon be appointed to inspect these arriving vessels at that port, \* \* \* and your approval is requested for such appointment.

Respectfully,

WALTER WYMAN,  
*Surgeon-General.*

The SECRETARY OF THE TREASURY.

Approved July 19, 1904:

R. B. ARMSTRONG,  
*Assistant Secretary.*

### PLAGUE.

The united and harmonious efforts of the Public Health and Marine-Hospital Service, the governor and health officials of California, and the municipal and health officials of San Francisco, have brought to a determined and successful completion the work of eradicating plague in the Chinese district of San Francisco.

The last case of plague was reported March 1, 1904, but nevertheless the board of health of that city will continue to maintain a surveillance over that district in particular and carry out necessary sanitary requirements.

Details showing the scope and character of repressive measures and statistics may be found in the Public Health Reports published during the fiscal year. The plague laboratory of the Public Health and Marine-Hospital Service in San Francisco was discontinued by Bureau orders of April 13, 1905.

The following letter, showing the satisfactory conditions in Chinatown as the result of joint action of the Federal, State, and municipal authorities, is of interest:

DEPARTMENT OF PUBLIC HEALTH,  
OFFICE OF BOARD OF HEALTH,  
*City Hall, San Francisco, Cal., February 16, 1905.*

DEAR SIR: I have been directed by the board of health of this city and county to forward copy of resolution which was unanimously adopted at a meeting of said board this day held, as follows:

"Whereas it has been one year since any contagious disease in Chinatown has existed of such a character as to render possible any quarantine measures, and

"Whereas Chinatown has now passed into a comparatively sanitary state through the united efforts of the Federal, State, and municipal boards of health in joint action, with the common purpose of definite accomplishment of its cleanliness: Therefore, be it

"Resolved, That the Public Health and Marine-Hospital Service at Washington be so notified, and that our thanks be extended to Dr. Rupert Blue for his skillful and energetic cooperation in all that has pertained to the welfare of San Francisco's high sanitary state and commercial prosperity."

Very respectfully,

LOUIS LEROY,  
*Deputy Health Officer.*

The SURGEON-GENERAL.

### YELLOW FEVER.

The measures to prevent the recrudescence of yellow fever near the Texas border were continued, as outlined in the last annual report, in the investigation of rumors of suspicious cases of fever, the destruction of mosquitoes, and a campaign of education was prosecuted along these lines in the triangular territory situated between San Antonio, Laredo, and Brownsville, Tex., with the result that no cases of yellow fever have been reported during the fiscal year.

The small camp outfits stored for emergency use at selected points upon the Louisiana-Texas border were returned to Camp Fontainebleau at the end of the quarantine season, but stored packed ready for future service.

Details of the operations of Service officers were published in full in the Public Health Reports during the fiscal year just ended, showing the activity of the Service at various places in Texas, with a view to preventing a recurrence of yellow fever by the destruction of mosquitoes and their breeding places. The report of Past Asst. Surg. T. F. Richardson, in charge of service work at Laredo and vicinity, is herewith appended:

**SERVICE WORK IN LAREDO, TEX., AND VICINITY DURING SUMMER AND FALL OF 1904.**

*LAREDO, TEX., October 20, 1904.*

SIR: Complying with instructions in Bureau letter of September 22, I have the honor to submit the following report of Service operations in the portion of the State of Texas under my supervision, in continuation of my report for the period ending June 30, 1904.

**WORK IN LAREDO.**

House-to-house inspection of the entire city with a force of 10 inspectors was continued without interruption until September 20, when this and all fumigation work by the Service was stopped. No yellow fever was discovered during the entire period. By the end of the month of July all the metal barrel screen-tops supplied by the city were distributed, so that there were then 2,000 barrels in Laredo screened by the Service and the city conjointly, besides probably some 300 by the owners themselves.

On September 7 there were found by actual count 1,771 metal screens in position on barrels.

While the screening of barrels undoubtedly did much good, larvæ were frequently found in the screened barrels, showing that the tops were often left off, as was also proven by the inspectors' reports. To prevent this leaving off of the tops a few selected barrels early in the season were supplied with faucets, but this plan proved unsuccessful. The flow of water through the faucets was not rapid enough, and they were soon abandoned for the old dipping process.

At the suggestion of Assistant Surgeon Berry, the inspectors were each provided with a small electric torch for the better inspection of barrels in dark rooms and corners. Their utility was at once demonstrated by the increased number of wigglers and oilings that were reported.

During July an effort was made by means of circular letters to induce householders with cisterns or wells on their premises to render them mosquito proof by proper covering or screening and cementing all cracks. This measure met with a certain amount of success, although it was very difficult to have any cistern thoroughly well protected unless the finishing touches were put on under the supervision of a Service officer.

Later in the season, after experiments conducted in this office, the stocking of cisterns and wells and some few barrels with the silver-side minnow, caught in the Rio Grande, was begun on a small scale.

At the time of stopping actual work, September 20, 177 wells and cisterns had had placed in them these little fish, with perfect results—larvæ were never observed in the stocked waters, and the fish themselves were found to live and to thrive.

In barrels the minnows in many cases soon died, probably in most instances from mechanical injury due to frequent and violent agitation of the water in dipping it out and replenishing, though if the barrel stood in the sun the heat alone soon killed the fish.

**WORK OUTSIDE OF LAREDO.**

On July 11, the force under Acting Assistant Surgeon MacGregor was discontinued, having completed the work assigned them along the Texas-Mexican Railway. The services of Doctor MacGregor were, however, retained as inspector

along the railroad between Laredo and Corpus Christi, he keeping in touch with the health conditions of the various places by frequent visits. These inspections were undoubtedly of much value, not only from the knowledge of actual conditions which they afforded but also because they served to quiet the suspicions of each community against all its neighbors.

The county judge of Duval County on July 11 telegraphed this office that a case of yellow fever had been reported in San Diego and requested an investigation. I at once proceeded to San Diego, in company with Doctor McKnight of the State quarantine service and Acting Assistant Surgeon MacGregor. The case was not considered as yellow fever, and an autopsy proved that it was not. Doctor MacGregor was, however, instructed to make San Diego his headquarters and keep close supervision over the vicinity.

A number of rumors as to conditions in Brownsville, Tex., having reached this office, Acting Assistant Surgeon Lowry was sent to inspect that place and the neighboring Mexican city of Matamoros.

Doctor Lowry reported on July 13 that he found no yellow fever in either city.

On July 9 Acting Assistant Surgeon Cock, with 3 experienced lay inspectors and fumigators, was started on an inspection trip overland along the Rio Grande from Laredo to Brownsville. It was necessary to take a complete camping outfit for this trip, much of it being through wild and unsettled country.

July 20 this force arrived in Rio Grande City and August 6 in Brownsville, having done much antimosquito demonstration work and inspection along the road at the various towns and ranches.

At Brownsville Doctor Cock was instructed to do a few days' demonstration work in the city and vicinity, and after as thorough an inspection as possible to return to Laredo.

Under date of August 22, a telegram was received from Doctor Cock reporting a suspicious case in the post hospital, Fort Brown, Brownsville. This message was repeated to the Bureau by this office, and a request made that Acting Assistant Surgeon Purnell be ordered from San Antonio to Brownsville as diagnostician.

August 24 Acting Assistant Surgeon Frick was ordered to Brownsville, and August 28 Passed Assistant Surgeon Richardson was directed to proceed there and assume command of Service operations.

Immediately upon receipt of Doctor Cock's report he was instructed by wire to take all necessary precautions in the way of screening and fumigating, and to request a daily house-to-house inspection on the part of the city. A sufficient supply of mosquito netting, sulphur and alcohol was also sent to Brownsville by fast freight.

The house-to-house inspection by the citizens under the supervision of the Brownsville Board of Trade was at once instituted and continued for several days.

August 29 I arrived in Brownsville in company with the State health officer. The suspected case was at this time over twelve days old, and it was not possible to arrive at a satisfactory diagnosis.

Energetic and thorough fumigation had been done by Doctors Frick and Cock in the neighborhood in which the sick man had been, and mosquito bars were supplied to all physicians by the Service who applied for them for use over fever cases.

The city council at once passed an antimosquito ordinance on the lines of that of Laredo and appointed inspectors to see that its provisions were enforced. Every facility was extended the Service for a thorough investigation of conditions in Brownsville.

Fortunately nothing further of a suspicious nature was discovered, and on September 7 fumigation work by the Service was suspended, Doctor Cock and his force returning to Laredo for disbanding, and Doctor Frick remaining in Brownsville on information duty.

The work of the Service in Brownsville was greatly facilitated by Maj. George F. Cooke, U. S. Army, the commanding officer at Fort Brown, who furnished men and teams and quarters in the post for the Service representatives.

At Rio Grande city Acting Asst. Surg. Dashiell has continued on duty. Besides acting as quarantine officer, he has done excellent antimosquito work with the cooperation of the citizens, who subscribed money to employ an inspector and to purchase oil. After this subscription was exhausted the Bureau allowed the employment of a special inspector, who is still on duty.

The daily inspections of Nuevo Laredo, Mexico, have been continued to date of this writing. On September 30 the active campaign against the mosquito in that city was stopped.

During the entire summer the health conditions in Nuevo Laredo, as shown by the mortality reports, has been satisfactory.

#### BORDER QUARANTINE.

Train inspection and disinfection of all through cars at Laredo has been continued uninterruptedly. Night and day guards have been constantly maintained on both bridges.

Statements showing the work done in Laredo and at other points outside of Laredo are appended.

Respectfully,

T. F. RICHARDSON,  
*Passed Assistant Surgeon.*

The SURGEON-GENERAL.

#### *Report of Service operations at Laredo, Tex., for period July 1 to September 20, 1904.*

	July.	August.	September.	Total.
Inspected:				
Premises .....	26,170	29,499	21,854	77,523
Fumigated:				
Houses .....	140	117	79	336
Rooms .....	494	448	288	890
Cisterns .....		2		2
Oiled:				
Containers .....	6,881	6,781	5,596	19,258
Wells and tanks .....	14			14
Ponds .....		50		50
Cisterns made mosquito proof .....		16	13	29
Containers stocked with larvæ-eating fish .....		8	169	177

#### *Report of service operations outside of Laredo, Tex., for period July 1 to September 20, 1904.*

	July.	August.	September.	Total.
Inspected:				
Premises .....	271	675	322	1,268
Fumigated:				
Houses .....	261	168		429
Rooms .....	143	261		404
Oiled:				
Containers .....	263	3,708	472	4,443
Wells .....	95			95
Cisterns .....	22	236	12	270
Ponds .....			4	4

#### SMALLPOX.

The prevalence of smallpox has been adverted to in the report of the division of sanitary reports and statistics, and the officers detailed to assist State and local authorities with regard to this disease are mentioned in the report of the personnel division. The usual aid of the Service was extended to localities in West Virginia and to the health authorities of Maine, on the Canadian border of that State. The details have been set forth in the Public Health Reports during the fiscal year.

## THE NATIONAL QUARANTINE STATIONS.

The equipment, personnel, and efficiency of these sanitary fortresses to the seaports of the United States have been maintained throughout the fiscal year, and the boarding steamers, launches, barges, and small boats have been repaired and kept in serviceable condition.

The reports from stations follow:

## PORTLAND, ME.

[Portland quarantine; post-office and telegraphic address, Portland, Me.]

[Report of the medical officer in command. Assumed command under official orders of December 27, 1901.]

QUARANTINE, PORTLAND, ME., July 1, 1905.

SIR: I have the honor to inclose a statistical table showing the transactions at the Portland quarantine during the fiscal year ended June 30, 1905.

Nothing of special note has occurred in quarantine here during the year except the arrival of the British steamer *Devona* from Newcastle, England, with a mild case of smallpox on board. The quarantine station has not yet been established; but as the site for it was purchased, two old buildings on the site were used for a temporary hospital and detention barracks. The vessel was fumigated with sulphur pots and formaldehyde generators, and no other case developed.

Respectfully,

P. C. KALLOCH,  
*Surgeon, Public Health and Marine-Hospital Service.*

The SURGEON-GENERAL.

[Inclosure.]

*Transactions at Portland, Me., quarantine station for the year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Steamers inspected and passed...	5	5	5	5	7	14	11	12	12	7	9	3	95
Steamers disinfected.									1				1
Sailing vessels inspected and passed		1			1				1			1	4
Number of crew on steamers.	301	350	317	302	432	869	653	767	932	755	462	160	6,360
Number of crew on sailing vessels		10			10				11			12	43
Number of passengers on steamers		1				77		120	636	1,579	59		2,422

## EASTPORT.

[Eastport (Me.) quarantine.]

[Report of Acting Asst. Surg. E. M. Small, in charge.]

EASTPORT, ME., July 1, 1905.

SIR: I beg to submit my report for fiscal year ending June 30, 1905.

Eastport has a population of 6,000; is situated on Moose Island, and is connected with the mainland by a railroad and toll bridge, and is separated from the neighboring province of New Brunswick by the Passamaquoddy and St. Croix rivers. Eastport is the most easterly town in the United States.

The steamers of the Eastern Steamship Company, plying between St. John, New Brunswick, and Portland and Boston, make landings here both ways and bring a very large number of passengers both from and to the provinces. Steamers arrive here daily from St. Stephen, New Brunswick, St. Andrews, New Brunswick, and Grand Manan, New Brunswick. We have railroad communication east and west twice daily.

I find more or less sickness among passengers and crews of both steamers and sailing vessels, but have been so fortunate as to discover nothing of a quarantinable nature during the year.

I am satisfied that the fact of a quarantine station being established here deters suspicious cases from coming from the provinces, and I have the hearty cooperation of the officers of the various steamship companies, they promising me to reject anything of a suspicious nature.

I herewith inclose my annual report of transactions.

Respectfully,

EDWARD M. SMALL,

*Acting Assistant Surgeon, Public Health and Marine-Hospital Service.*

The SURGEON-GENERAL.

[Inclosure.]

*Transactions at Eastport, Me., notional quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Vessels spoken and passed.....	1	-----	1	-----	-----	1	-----	-----	-----	-----	-----	-----	8
Steamers inspected and passed ..	102	105	102	94	85	70	58	51	62	61	96	102	988
Sailing vessels inspected and passed .....	12	18	12	20	8	6	3	-----	6	11	11	7	109
Number of crew on steamers .....	2,418	2,382	2,459	2,394	2,086	1,413	1,088	880	1,100	1,272	2,502	2,604	22,548
Number of crew on sailing vessels .....	77	93	67	104	45	40	18	-----	34	59	61	37	635
Number of passengers on steamers .....	5,416	7,246	5,410	2,990	1,889	1,641	1,095	943	1,233	1,625	2,267	3,987	35,742

PERTH AMBOY.

[Perth Amboy, N. J., quarantine; post-office and telegraphic address, Perth Amboy, N. J.]

[Report of the medical officer in command, Passed Asst. Surg. W. A. Korn; assumed command under official orders of July 12, 1904.]

PERTH AMBOY, N. J., *July 1, 1905.*

SIR: I have the honor to submit the following report of transactions at this station during the fiscal year ending June 30, 1905, together with inclosed statistical form.

Thirty-nine vessels were inspected and passed, of which 33 were steam vessels and 6 were sail vessels.

Nine hundred and eighty-one persons were inspected, of whom 924 were members of crews of steam vessels, 53 members of crews of sail vessels, and 4 passengers on steam vessels.

Ten team vessels were fumigated. This station, situated at the port of Perth Amboy, N. J., at the entrance to Arthur Kill, or Staten Island Sound, was established under Bureau order dated July 12, 1904.

Being an inspection station only, there are no facilities for the detention and treatment of quarantinable diseases. In the event of a vessel arriving with a quarantinable disease on board, the facts in the case would be wired to the Bureau, and instructions requested as to what disposition to make of the vessel,

H. Doc. 320, 59-1—12

The Service office is located in the custom-house building, in which are also the offices of the local pilots.

The equipment consists of 1 gasoline launch, which is rented by the Service, 2 Kuhn formaldehyde lamps, 50 sulphur pots and water containers, together with sulphur, pyrethrum powder, and alcohol.

Upon request, vessels bound for ports south of the southern boundary of Maryland are fumigated during the close quarantine season.

During the past year no cases of quarantinable disease came under observation.

Respectfully,

W. A. KOHN,  
*Passed Assistant Surgeon.*

The SURGEON-GENERAL.

[Inclosure.]

*Transactions at Perth Amboy, N. J., national quarantine station for the year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Steamers inspected and passed.....		4	4	1	3	4	5	2	3	3	1	3	33
Steamers disinfected.....		3	2	1						1	1	2	10
Sailing vessels inspected and passed.....						2	1		2		1		6
Number of crew on steamers.....		118	95	31	80	107	142	69	78	91	28	85	924
Number of crew on sailing vessels.....						16	9		49		9		53
Number of passengers on steamers.....			4										4

#### REEDY ISLAND.

[Reedy Island Quarantine; telegraphic address, Reedy Island, Del.; post-office address, Port Penn., Del.]

[Report of Passed Asst. Surg. H. W. Wickes. Assumed command under official orders of March 12, 1903.]

REEDY ISLAND QUARANTINE, *July 1, 1905.*

SIR: I have the honor to transmit herewith statistics of transactions at this station during the fiscal year 1904-5.

During the year a total of 876 vessels were inspected and passed, of which 751 were steam vessels and 125 were sailing vessels. Four vessels were spoken and passed. A total of 57,174 persons were inspected, of which 28,065 were crews of steam vessel, 1,711 crew of sailing vessels, 27,379 passengers on steam vessels, and 19 passengers on sailing vessels. No vessels were disinfected during the fiscal year.

Respectfully,

H. W. WICKES,  
*Passed Assistant Surgeon, in Command.*

The SURGEON-GENERAL.



[Inclosure.]

*Transactions at Reedy Island national quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Vessels spoken and passed.....	1	1	-----	-----	-----	-----	-----	-----	-----	-----	1	1	4
Steamers inspected and passed.....	78	65	71	66	67	61	62	-----	21	100	80	80	751
Sailing vessels inspected and passed.....	18	18	16	14	11	10	7	-----	4	5	16	11	126
Number of crew on steamers.....	2,880	2,293	2,831	2,751	2,529	2,267	2,206	-----	848	3,516	3,064	2,283	28,065
Number of crew on sailing vessels.....	223	171	195	209	116	126	129	-----	30	86	258	159	1,711
Number of passengers on steamers.....	2,267	1,746	3,488	3,877	3,902	1,718	1,643	-----	913	4,137	1,739	1,949	27,379
Number of passengers on sailing vessels.....	-----	-----	1	6	-----	-----	-----	-----	-----	-----	10	2	19

## DELAWARE BREAKWATER.

[Delaware Breakwater quarantine; telegraphic and post-office address, Lewes, Del.]

[Report of the medical officer in command, Asst. Surg. L. P. H. Bahrenburg, Assumed command under official orders of July 9, 1904.]

DELAWARE BREAKWATER QUARANTINE,  
July 1, 1905.

SIR: I have the honor to transmit herewith a report of the transactions of this station for the fiscal year ending June 30, 1905.

During this period 138 vessels were boarded, an increase of 31 over the previous year. One vessel, the schoolship *Saratoga*, was passed on the medical officer's certificate. The steamship *Candlehoe*, from Javan and Indian ports, was inspected on October 2, 1904, and an Arab fireman found affected with trachoma. This fact was noted on the vessel's pratique.

On October 21, 3 convalescing cases of varicella were found among the Indian fore-castle crew of the steamship *Langbank*, from Java. Another member of the crew, with a similar eruption, had been disembarked at Valetta, Malta, and taken to the lazaretto, where a diagnosis of "suspected smallpox" was made. Released without pratique by direction of the Bureau on October 22.

The steamship *Spithead*, also from Java, arrived here on October 23, with a history of having had 11 cases of beriberi en route, 1 having been left at Colombo, Ceylon, and 9 at Port Said, Egypt, for treatment. The eleventh case was of a mild character and had recovered before arrival at this port.

The steamship *Coronation*, from Java, which had been reported from Gibraltar three weeks previously as having in her crew a case suspected of being plague, was boarded on December 4. The suspect was found to have enlarged and indurated lymph glands in the left groin, but was in all other respects well. By direction of the Bureau this vessel was released without pratique on December 7.

The steamship *Coulsdon* also arrived on December 4 after an ill-starred voyage, the master reporting the following deaths as having occurred at sea: One from dysentery and 1 from heart disease; 1 man had disappeared en route, and it is assumed that he fell overboard; at Port Tewfik (Suez), 1 case of beriberi and 2 cases later reported as being cholera suspects were landed for treatment. Upon examination 5 men were found to be suffering from beriberi; the remainder of the crew were in good health. This vessel was released without pratique, by direction of the Bureau, on December 6, 1904.

Respectfully,

L. P. H. BAHRENBURG,  
Assistant Surgeon.

The SURGEON-GENERAL.

[Inclosure.]

*Transactions at Delaware Breakwater national quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Steamers inspected and passed .....	4	8	14	24	9	4	2	-----	2	8	9	11	95
Sailing vessels inspected and passed .....	7.	7	1	6	3	1	1	5	6	2	1	3	43
Number of crew on steamers.....	90	180	436	838	287	154	49	-----	32	119	214	260	2,729
Number of crew on sailing vessels.....	152	95	8	156	23	30	7	65	53	21	9	39	658
Number of passengers on steamers.....	3	9	7	6	6	-----	-----	-----	-----	7	25	7	70
Number of passengers on sailing vessels.....	-----	1	-----	4	1	-----	-----	2	1	1	-----	5	15

The following noted repairs and improvements were made at the station during the fiscal year.

The bulkhead along the bay shore was strengthened and extended downward at a cost of \$229.69 for materials. About 330 cubic yards of sand was filled into excavations washed out along the inner side of the bulkhead. The wagon shed, blown down by the September gale, was rebuilt and repainted. Excavations made by the winds around and under various buildings were filled in; the cemetery was graded and its fences repaired and painted. Broken down fences around and on the reservation were removed and temporarily replaced by barbed wire at a cost of \$33.60 for wire and staples.

Frozen water and sewer pipes were taken up, thawed out, repaired and relaid, and all exposed pipes covered with straw and sand. Drains, sewer outlets, cisterns, and tanks cleaned and repaired; tanks were painted and cesspools cemented. Various minor repairs were made to the steam boiler, pipes, and fittings. The exposed lead pipe from the high storage tank was fitted with frost-proof covering at a cost of \$12.16 for materials. A broken closet bowl in the Cabin Passenger building was replaced at a cost of \$15 for the same. An unused bathroom in the same building was lined with tarred paper and converted into a storeroom for rugs, carpets, and blankets after their fumigation to kill moths.

The boats were caulked and with the boathouse on the landing pier were painted. The roofs of various buildings and the boardwalks were extensively repaired and the latter elevated above the sand to restrain further rotting. The coal and wood bins under the executive building veranda were removed and rebuilt. A storehouse was built for oils and for the paints, etc., formerly stored in the north barracks; the old oil shed was razed.

Mosquito screens were overhauled and repaired and new screens made for the laundry and disinfecting rooms, materials for all these screens costing \$131.78.

Through the Supervising Architect's office seven chemical fire extinguishers were purchased at a cost of \$85.40 and a crematory costing \$864 was erected under contract.

## ALEXANDRIA.

[Report of Acting Asst. Surg. Arthur Snowden, in charge.]

*Transactions at Alexandria, Va., national quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Steamers inspected and passed.									1			1	2
Sailing vessels inspected and passed.	1	3		4	1	1	1		1	2			14
Number of crew on steamers.									53			248	301
Number of crew on sailing vessels.	7	20		30	7	8	8		9	17			106
Number of passengers on steamers.									324				324
Number of passengers on sailing vessels.	1			1									2

## CAPE CHARLES.

[Cape Charles Quarantine; post-office and telegraphic address, Fortress Monroe, Va.]

[Report of the medical officer in command, Asst. Surg. J. S. Boggess. Assumed command under official orders of November 21, 1902.]

## CAPE CHARLES QUARANTINE, July 3, 1905.

SIR: I have the honor to submit the following annual report of this station and its transactions for the fiscal year ending June 30, 1905:

In general, the station consists of a boarding and disinfecting station in Hampton Roads, Virginia, near Fort Monroe, and an isolation station occupying Fisherman's Island, Virginia, for the treatment of patients suffering from quarantinable disease and the detention of suspects. Hampton Roads is an arm, as it were, of the south side of Chesapeake Bay, near its mouth, and vessels entering it do so for the purpose of seeking harbor or to enter the ports of Norfolk, Richmond, Newport News, or Fort Monroe, which latter place is a suburb of Newport News, and this station is maintained to prevent the introduction of quarantinable disease into these ports.

The Hampton Roads station consists of the quarantine ship *Jamestown*, an old navy frigate, which is permanently moored about one-half mile from Fort Monroe. This vessel is used as station headquarters and quarters for the officers and attendants, and is completely equipped for disinfecting purposes, with sulphur furnace and blower, steam chamber, shower baths, sulphur pots, formaldehyde generators, etc. The sulphur furnace is in good condition, but has not been used for some time, as it is usually too rough in these waters to bring a vessel alongside the *Jamestown*. Even if it were smooth enough to do so, as much time would be consumed in shipping the port boat boom and gangway and performing other necessary work before the vessel could be brought alongside as would be required to get the fumigation under way by the pot method.

The latter-named method of using sulphur has been employed exclusively for the past few years and has proven very satisfactory, as it is cheaper, requires less work, can be used in all kinds of weather, and is more accurate than any other method of which I know. A 40-foot 18-horsepower alcovapor launch is attached to the *Jamestown* as a tender and for use in boarding vessels which usually anchor within a mile of the quarantine ship for inspection. No quarantine anchorage has ever been officially designated in these waters, although it is often highly desirable, or even necessary, to maintain an unobstructed anchorage. The steamer *John M. Woodworth* is attached to this

station, to enable the commanding officer to inspect the isolation station at Fisherman's Island, which is about 25 miles across the mouth of the bay, and to carry supplies and otherwise put the station headquarters in communication with the distant part of the station.

The detention station occupying Fisherman's Island consists of keeper's house, surgeon's quarters, disinfecting house with steam chamber and baths, contagious hospital, detention barracks, crematory, kitchen, dining rooms, laundry, pump house for water system, etc., all of which is capable of furnishing necessary accommodations for from 400 to 500 persons. An acting assistant surgeon is employed at a nominal salary at Cape Charles, Va., about 16 miles distant, whose duty it is to inspect this station at intervals and who cares for patients suffering from quarantinable diseases. At such times he remains at the station and gives his entire time to the care of patients, for which he receives additional compensation.

During the year 32 sailing vessels, carrying crews aggregating 266 men and 2 passengers, and 266 steam vessels carrying crews aggregating 15,262 men and 569 passengers, came under the jurisdiction of this station. This includes 3 foreign and 18 domestic men-of-war (which were passed upon the certificates of the naval surgeons on board) which carried complements of 870 and 5,452 officers and men, respectively. Two sailing and 4 steam vessels have been fumigated. One case of quarantinable disease (smallpox with recovery) came under jurisdiction from the United States schooner *Jennie Thomas*. The patient was cared for at the isolation station, and the vessel was fumigated and held at the Hampton Roads station to complete fourteen days from the time of last possible contact, after which, no new cases having developed, it was discharged.

Professional assistance has been rendered to naval vessels from time to time, and during the war exercises this spring, while the troops were in camp, sulphur pots and water containers were loaned to the Army for use in ridding the barracks of vermin.

The medical officer in command made one trip to Newport News, at the request of the local health officer, to make a microscopic examination of the blood of a yellow-fever suspect on a steamer from a domestic southern port and which had not stopped at this station for inspection. The microscope showed the case to be one of malaria.

The relations with the other branches of the Government service and with the local health authorities have continued to be harmonious.

A statistical table showing the station work for the fiscal year is inclosed herewith.

Respectfully,

JNO. S. BOGGESS,  
Assistant Surgeon, in Command.

The SURGEON-GENERAL.

[Inclosure.]

*Transactions at Cape Charles national quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Steamers inspected and passed.....	21	13	25	24	14	31	19	17	19	21	36	26	266
Steamers disinfected.....			1	1								2	4
Sailing vessels inspected and passed.....	3	2	1	2	1		1	4	1	1	8	8	32
Sailing vessels disinfected.....			1				1						2
Number of crew on steamers.....	1,068	425	849	1,422	375	4,319	568	1,085	1,229	662	1,594	1,644	15,262
Number of crew on sailing vessels.....	24	17	7	17	6		9	41	13	8	63	61	266
Number of passengers on steamers.....	22	47	64	35	24	68	34	30	72	54	55	69	569
Number of passengers on sailing vessels.....								2					2

## CAPE FEAR.

[Cape Fear Quarantine; post-office and telegraphic address, Southport, N. C.]

[Report of the medical officer in command, Asst. Surg. B. S. Warren assumed command under official orders of March 19, 1903.]

CAPE FEAR QUARANTINE, *July 1, 1905.*

SIR: I have the honor to transmit herewith a report of transactions at this station during the fiscal year ending June 30, 1905.

Forty-four vessels were inspected. Of these 1 was found from Porto Rico, 4 from Cuba, 3 from the West Indies, 3 from South America, 4 from Africa, 19 from Europe, and 9 from domestic ports.

Respectfully,

B. S. WARREN, *Assistant Surgeon.*

The SURGEON-GENERAL.

[Inclosure.]

*Transactions at Cape Fear national quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Vessels spoken and passed.....								1					1
Steamers inspected and passed.....		1	6	3	3	2	2	1	1	1	1	1	22
Steamers disinfected.....					2								2
Sailing vessels inspected and passed.....	1	1	1		1	2	4	1	1		1	2	15
Sailing vessels disinfected.....	1	1			1	1							4
Number of crew on steamers.....		28	154	85	85	46	46	21	21	25	25	21	557
Number of crew on sailing vessels.....	17	19	8		35	28		44	13		12	14	190
Number of passengers on steamers.....				2									2

## BEAUFORT, N. C.

Under date of July 1, 1905, the acting assistant surgeon in charge of quarantine at Beaufort, N. C., reported that there had been no transactions during the fiscal year ending June 30, 1905.

## SAVANNAH.

[Savannah quarantine; post-office and telegraphic address, Savannah, Ga.]

[Report of the medical officer in charge, Act. Asst. Surg. William J. Linley. Assumed charge under official orders of May 2, 1899.]

SAVANNAH QUARANTINE, *July 6, 1905.*

SIR: I have the honor to transmit the following report of transactions at this station for the fiscal year ending June 30, 1905:

Two hundred and forty-five vessels, carrying 6,874 seamen and 43 passengers, were boarded and inspected, and 16 spoken and passed. Eleven vessels were disinfected and held for observation, 7 fumigated and released, and 1 fumigated and released after discharge of ballast. One vessel, disinfected at a northern port, was held three days for completion of the period of observation. Ten

vessels arriving for orders were boarded in Tybee Roads; 5 of these were inspected and passed, and 5 held subject to quarantine regulations. All of the latter subsequently put to sea.

No sickness of a contagious nature occurred on the station during the year, and none of a quarantinable nature was observed aboard vessels which arrived here.

*Nationality and class of vessels arriving during the year.*

	British.	Norwegian.	Swedish.	Danish.	Russian.	Italian.	Belgian.	Uruguayan.	German.	Austrian.	Spanish.	Dutch.	American.	Mexican.	Total.
Steamships .....	143	12	4	5	....	5	1	....	20	19	4	12	4	1	230
Barkentines .....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	2
Barks .....	....	7	3	....	....	1	....	1	....	....	1	....	1	....	14
Schooners .....	10	....	....	....	....	....	....	....	....	....	....	....	5	....	15
Total .....	155	19	7	5	....	6	1	1	20	19	5	12	10	1	261

Countries from which detained vessels came: Cuba, 11; Jamaica, 2; Trinidad, 1; Martinique, 1; Brazil, 2; yellow-fever latitudes via northern American ports, 2.

Ballast brought by vessels treated at station: Light, 10; water, 5; stone, 4.

Vessels coming from yellow-fever intertropical and South American ports via northern American ports: (a) Disinfected at Savannah quarantine and held, 2; (b) disinfected at northern port and given pratique on arrival at Savannah quarantine, 4; (c) inspected and passed, 14; (d) disinfected at northern port and held at Savannah quarantine for completion of period of observation, 1.

None of the detained vessels showed *Stegomyia fasciata* aboard on arrival. One hundred and sixteen rats were killed by sulphur fumes.

Sickness observed on vessels on arriving at station: Typhoid, 1; tonsillitis, 1; malaria, 4; myalgia, 2; chancroids, 1; hydrocele of cord, 1.

Respectfully,

WM. J. LINLEY,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

[Inclosure.]

*Transactions at Savannah national quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Vessels spoken and passed .....	....	....	....	....	....	....	....	5	2	....	2	7	16
Steamers inspected and passed .....	5	16	26	30	29	28	14	10	12	15	12	7	204
Steamers disinfected .....	....	....	3	....	....	1	....	....	....	1	1	....	6
Sailing vessels inspected and passed .....	2	1	2	3	4	2	1	3	2	....	....	1	21
Sailing vessels disinfected .....	3	3	....	1	3	....	....	2	....	1	....	1	14
Number of crew on steamers .....	134	435	845	926	1,000	849	460	512	326	458	401	172	6,518
Number of crew on sailing vessels .....	45	33	23	37	71	39	6	55	22	6	....	19	356
Number of passengers on steamers .....	....	8	3	1	14	9	3	1	1	....	1	1	42
Number of passengers on sailing vessels .....	....	....	....	....	....	....	1	....	....	....	....	....	1

## SOUTH ATLANTIC.

[South Atlantic Quarantine; post-office address, Inverness, Ga.]

[Report of the medical officer in command, Passed Asst. Surg. M. K. Gwyn.  
Assumed command under official orders of May 24, 1905.]

SOUTH ATLANTIC QUARANTINE, *July 6, 1905.*

SIR: I have the honor to submit herewith a report of the transactions of the quarantine service at this station during the fiscal year ending June 30, 1905, together with a description of the station.

The quarantine reservation includes the whole of Blackbeard Island, off the coast of Georgia, about halfway between Savannah and Brunswick, Ga. The north end lies on Sapelo Sound, where a quarantine anchorage has been laid out and marked by buoys painted a yellow color. Here also a substantial wharf has been constructed, provided with hoisting machinery for handling ballast and a steam chamber for disinfecting bedding, baggage, etc., and tanks for bichloride solution. Originally a tramway extended out over the ballast spurs, which are built out from the rear of the wharf toward the shore, but at present only about 75 feet of single track on one spur is available for service.

Two attendants live on the wharf—one engineer and disinfecter and one cook. Their quarters consist of two rooms in a small building at one end, a kitchen and living room.

For the accommodation of the crews of vessels which are being disinfected, two rooms are provided having a total capacity of about 30 persons.

On the shore opposite the wharf a neat-looking hospital has been constructed, having accommodations for a physician, pharmacist, and nurse, with a ward capacity of about 10 beds.

Near the hospital a crematory has been built, which will add greatly to the efficiency of the station.

A transfer barge and a Whitehall boat are provided for transferring patients and supplies from the wharf to the hospital.

At the south end of the island are located the quarters for the officer in charge, his assistant, quarters for the attendants, kitchen and mess room, executive building, storerooms, laundry, etc. These latter buildings are in a poor state of preservation and will soon have to be replaced. The open land at this end giving free sweep to the winds makes this the most desirable portion of the island to live on. By those who have lived here a long time it is considered to be very healthy and particularly free from malaria. Several lagoons in the interior of the island render the north end very disagreeable by the mosquito pest during the season.

Communication is had between the north and south ends by a land telephone line across the island connecting with a cable from the wharf to the hospital. The cable is unreliable and liable to frequent breaks, owing to the weakening of its armor by the action of the salt water. A new one should be put in in the near future.

During the year 5 steamers were spoken and passed; 10 steamers inspected and passed; 7 sailing vessels inspected and passed, and 5 sailing vessels disinfected. The steamers had a total crew of 240.

M. K. GWYN,

*Passed Assistant Surgeon, in Command.*

The SURGEON-GENERAL.

[Inclosure.]

*Transactions at South Atlantic national quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Vessels spoken and passed.....	1	1	1	1	-----	1	-----	-----	-----	-----	-----	-----	5
Steamers inspected and passed.....	-----	-----	1	2	-----	-----	-----	3	1	1	2	-----	10
Sailing vessels inspected and passed.....	-----	-----	-----	-----	-----	1	-----	1	3	1	1	1	8
Sailing vessels disinfected.....	-----	-----	1	-----	-----	-----	-----	-----	1	2	1	-----	5
Number of crew on steamers.....	-----	-----	23	55	-----	-----	-----	72	20	22	48	-----	240
Number of crew on sailing vessels.....	-----	-----	14	-----	-----	15	-----	15	67	43	27	8	189
Number of passengers on steamers.....	-----	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	1
Number of passengers on sailing vessels.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	2	-----	-----	2

## BRUNSWICK.

[Brunswick quarantine; post-office and telegraphic address, Brunswick, Ga.]

[Report of medical officer in command, Asst. Surg. J. T. Burkhalter. Assumed command under official orders of July 18, 1902.]

BRUNSWICK QUARANTINE, *July 1, 1905.*

SIR: I have the honor to submit the following report of transactions at this station for the fiscal year ending June 30, 1905, together with attached statistical form letter:

The inclosed schedule shows that 30 vessels were spoken and passed, 71 sailing vessels inspected and passed, and 11 sailing vessels disinfected.

Nationality of vessels disinfected: British, 4; Portuguese, 3; American, 2; Uruguayan, 1; Swedish, 1.

Ports from which they arrived: Port of Spain, Trinidad, 1; Kingston, Jamaica, 1; Pernambuco, Brazil, 1; Para, Brazil, 3; Rio de Janeiro, 2; New York, previous port San Blas, 1; Boston, Mass., 1.

No vessel arrived with a quarantinable disease aboard.

The Brunswick, Ga., quarantine station is located about 3 miles southeast of the city of Brunswick on the left shore of Oglethorpe Bay, coming out from the city.

The site upon which station is built was made from ballast discharged from vessels and is composed of soil from many different countries. There is granite from Brazil, limestone from Cuba, and clays and sands from almost everywhere. The land thus formed is somewhat rectangular in shape and is about 750 feet long and 280 feet wide. It is clothed, for the most part, with a luxuriant growth of Bermuda grass and clover, with a few shade trees here and there. In the center of the site is an inclosed space with many fine peach trees.

The water front is about 800 feet in length, extending east and west, and along this front are located 3 docks, the upper, 30 by 50 feet; the middle or disinfecting dock, 69 by 32 feet, and the lower, 50 by 30 feet.

The disinfecting building is located just in rear of disinfecting dock. Medical officer's quarters at eastern end of station consists of a one-story five-room house. A two-room house just in the rear of officer's quarters, with its western porch inclosed, is used by acting pharmacist, also for office and station dining room and kitchen. A two-room house back of this is used for attendants and servants, with the loft overhead for condemned room.

The bay in front of station is about three-fourths of a mile wide, with plenty of deep water to accommodate vessels. There are no buoys to mark quarantine



limits, but it is the custom for all vessels arriving in quarantine to anchor in front of station.

Respectfully,

JNO. T. BURKHALTER,  
Assistant Surgeon.

The SURGEON-GENERAL.

[Inclosure.]

*Annual report of transactions at Brunswick national quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Vessels spoken and passed.....	2	2	3	1	1	3	3	2	2	8	-----	3	30
Steamers inspected and passed.....	-----	1	3	-----	2	3	1	1	-----	-----	3	-----	17
Sailing vessels inspected and passed.....	6	5	4	5	7	12	6	11	4	1	3	7	71
Sailing vessels disinfected.....	3	3	1	-----	-----	-----	1	-----	-----	1	1	1	11
Number of crew on steamers.....	-----	31	75	64	53	80	24	24	-----	-----	84	-----	435
Number of crew on sailing vessels.....	91	83	68	51	74	145	74	120	41	20	48	91	908
Number of passengers on steamers.....	-----	1	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	2
Number of passengers on sailing vessels.....	2	-----	-----	-----	-----	2	-----	6	-----	-----	-----	-----	10

#### TAMPA BAY.

[Tampa Bay Quarantine; post-office and telegraphic address, Tampa, Fla.]

[Report of medical officer in command, Asst. Surg. R. E. Ebersole. Assumed command under official orders of December 7, 1903.]

#### TAMPA BAY QUARANTINE, July 1, 1905.

SIR: As directed by Bureau circular letter of May 9, 1905, I have the honor to make annual report upon the transactions at this station during the present fiscal year, ended June 30, 1905, as follows:

Vessels boarded and passed, 5; steamers inspected and passed, 68; steamers disinfected, 6; sailing vessels inspected and passed, 85; sailing vessels disinfected, 1; number of crew on steamers, 2,138; number of crew on sailing vessels, 615; number of passengers on steamers, 3; number of passengers on sailing vessels, 49.

Tampa Bay quarantine station is completely equipped for the inspection and fumigation of vessels, and is located on Mullet Key, which is one of a chain of keys at the entrance of the bay, the quarantine reservation comprising about the eastern two-thirds of this key. The station is distant from Tampa about 35 miles, the only communication with which is by the army quartermaster's tug, which makes daily trips, except Sunday, from the army posts on Egmont Key and Mullet Key, the latter post being one-half mile from quarantine station. There is no telephone nor telegraphic communication with the outside world. Mullet and the surrounding keys are in parts swampy and covered with luxuriant vegetation, furnishing breeding places for mosquitoes, which abound during a greater part of the year. The smaller towns of Bradentown and St. Petersburg are distant about 12 miles, and can be reached by the station boats in favorable weather. Two wharves are provided—a small one for the unloading of ballast, with cars and track running ashore for dumping the ballast there, and a large one having upon it the disinfecting machinery and quarters for attendants. The wharves are about 200 yards from shore, with a depth of about 20 feet of water upon the outside, and have gangways going ashore. Commodious quarters for the medical officer and pharmacist and for cabin passengers detained in quarantine are provided

ashore upon the front of the station, with barracks for crew, small buildings used as shops, laundry, and pump house, and a small hospital, with one ward for contagious diseases about 600 yards east of the medical officer's quarters. The small boats are kept in the bayou between Mullet and neighboring keys, and a small landing wharf is provided there. Mullet Key is about  $3\frac{1}{2}$  miles long and one-half mile wide at its widest part.

The vessels coming to Tampa Bay quarantine are, for the most part, from European, Cuban, and Central American ports, these latter being mostly small sailing vessels, fruiters. Six steamers and 1 sailing vessel arrived from ports infected with yellow fever during the year, as follows: Five from Mexican ports, 1 from Colon, and 1 one from Para, and were disinfected. There is an increase in the number of vessels coming from infected ports, which is most probably due to their being able to undergo disinfection at the port of departure and count time en route instead of full time after arrival. No cases of quarantine disease were treated at the station during the year. Three cases of nonquarantinable disease were treated on board vessels in quarantine. The aggregate number of vessels arriving during the year, of all classes, 165, was slightly larger than the number arriving during the previous year, 156. The present "clean" condition of Cuba, since it has existed for the last two seasons, has lessened the work of this station.

Respectfully,

R. E. EBERSOLE,

*Assistant Surgeon, in Command of Station.*

The SURGEON-GENERAL.

[Inclosure.]

*Transactions at Tampa Bay national quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Vessels spoken and passed.....	1	-----	1	-----	-----	-----	1	1	-----	-----	-----	1	5
Steamers inspected and passed....	4	7	8	6	3	4	1	6	13	6	7	3	68
Steamers disinfected.....	-----	1	-----	1	-----	-----	-----	-----	-----	1	1	2	6
Sailing vessels inspected and passed.....	7	4	8	5	13	9	11	4	7	5	7	5	85
Sailing vessels disinfected.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1	1
Number of crew on steamers.....	128	245	252	199	71	104	39	167	364	221	204	144	2,138
Number of crew on sailing vessels.....	47	26	53	39	99	68	87	40	53	36	58	49	615
Number of passengers on steamers.....	-----	-----	-----	1	-----	-----	-----	2	-----	-----	-----	-----	3
Number of passengers on sailing vessels.....	2	1	1	4	21	6	6	-----	5	2	-----	1	49

CUMBERLAND SOUND.

[Cumberland Sound quarantine; post-office and telegraphic address, Fernandina, Fla.]

[Report of Acting Asst. Surg. J. Louis Horsey, in charge.]

CUMBERLAND SOUND QUARANTINE, *July 3, 1905.*

SIR: In compliance with instructions contained in Bureau circular letter dated May 9, 1905, I have the honor to submit herewith description and location of Cumberland Sound quarantine station, together with statistical report of transactions for the fiscal year ending June 30, 1905.

This station is located on the northwest point of Amelia Island, Florida, and is built on Fort Clinch Reservation, which is the property of the United States War Department. This station comprises a wharf 50 feet wide and 150 feet long, built on palmetto piles; an approach from wharf to the shore is 12 feet wide by 280 feet long. There are three buildings; one is situated on the wharf.

This building is 15 feet wide by 25 feet long, and contains one upright boiler, one sulphur furnace and fan, one engine, one pump for mercuric solution, and one tank for mercuric solution. Each of the buildings on shore is 30 feet wide by 40 feet long. One is used for disinfecting machinery and the other for living quarters for the attendants. The building used for disinfecting machinery contains one horizontal boiler, one steam disinfecting chamber with formaldehyde attachment, and one steam pump. The other building used for quarters for attendants is divided into four rooms each 12 by 20 feet; the building has hallway through center which is 4 feet wide. There is a small kitchen situated behind this building. The water supply of the station is rain water caught and stored in two wooden tanks.

All of the buildings have been repainted, the work having been done by the attendants. With this exception no new work or repairs have been made during the year.

Nothing unusual has occurred in the transactions of the station during the past year, and no sickness has occurred on the vessels arriving from foreign ports. Six foreign barks from South African ports were unballasted and disinfected.

No new work will be needed, but the following repairs will be necessary. The fender and mooring dolphins will have to be replaced by new ones at an estimated cost of \$250. The wooden water conveyers from roofs to tanks are worn out and should be replaced by galvanized gutters and pipes. The estimated cost of these repairs is \$35 for material and work.

Respectfully,

J. LOUIS HORSEY,  
Acting Asst. Surgeon.

The SURGEON-GENERAL.

[Inclosure.]

*Transactions at Cumberland Sound, Florida, national quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June.	Total.
Vessels spoken and passed.....	20	27	15	30	-----	-----	-----	-----	-----	16	28	12	148
Steamers inspected and passed.....	9	10	8	5	1	3	2	1	4	7	6	2	58
Sailing vessels inspected and passed.....	6	4	4	4	5	11	7	6	6	9	5	2	69
Sailing vessels disinfected.....	-----	2	3	-----	-----	-----	-----	-----	-----	-----	-----	1	6
Number of crew on steamers.....	252	264	221	151	31	100	62	28	108	194	185	59	1,555
Number of crew on sailing vessels.....	212	244	225	270	51	110	63	52	57	72	286	109	1,751
Number of passengers on steamers.....	-----	3	-----	-----	-----	-----	-----	-----	-----	1	5	-----	9
Number of passengers on sailing vessels.....	10	6	-----	5	-----	3	6	-----	-----	5	-----	8	48

#### ST. JOHNS RIVER INSPECTION STATION.

[St. Johns River inspection station; post-office and telegraph address, Mayport, Fla.]

[Report of Acting Assist. Surg. George Macaulay, in charge.]

#### ST. JOHNS RIVER INSPECTION STATION, July 1, 1905.

SIR: This station is located on the southern shore of the St. Johns River, about 3 miles from the bar of said river, and within the corporate limits of the town of Mayport, Fla.

The station, as its name implies, is primarily an inspection one for all vessels which enter this port, though when deemed necessary fumigation and disinfection are provided for by iron pots for sulphur burning, a regenerator for

formaldehyde gas, and force pumps for washing and spraying with corrosive sublimate solutions.

The only building is the boat house, which is also used for speaking vessels and as a storehouse for all tools and other appliances.

The accompanying statistical table gives an accurate account of the transactions which have transpired at this station during the year ending June 30, 1905.

Respectfully,

GEORGE MACAULAY,  
Acting Assistant Surgeon.

The SURGEON-GENERAL.

[Inclosure.]

*Transactions at St. Johns River, Florida, national quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Vessels spoken and passed.....	19	18	18	27	-----	-----	-----	-----	-----	35	30	27	174
Steamers inspected and passed.....	-----	-----	1	2	1	1	2	-----	1	3	-----	-----	11
Sailing vessels inspected and passed.....	6	1	6	5	9	18	11	11	12	4	5	3	91
Number of crew on steamers.....	58	40	98	67	27	22	45	-----	16	165	100	98	731
Number of crew on sailing vessels.....	153	122	145	221	67	142	92	83	90	218	201	155	1,689
Number of passengers on steamers.....	-----	-----	-----	1	-----	-----	-----	-----	7	6	8	4	26
Number of passengers on sailing vessels.....	7	1	-----	2	7	6	2	5	11	3	15	2	61

#### KEY WEST.

[Key West quarantine; post-office and telegraphic address, Key West, Fla.]

[Report of Acting Asst. Surg. S. D. W. Light, in charge.]

#### KEY WEST QUARANTINE, June 30, 1905.

SIR: I have the honor to submit the following report of the operations of this quarantine station for the twelve months ending June 30, 1905. I was appointed an acting assistant surgeon in this Service on August 23, 1904, and at once assumed charge of this station.

The personnel consists of an acting assistant surgeon in charge of station and two attendants (engineer of the launch *Gannet* and engineer of shore plant).

The disinfecting apparatus consists of a steam disinfecting chamber, housed in a one-story, frame, corrugated-iron building covered by tin shingles, occupying ground to the rear of the docks of the Peninsular and Occidental Steamship Company, on land leased from this company.

This structure is divided into three rooms or compartments, one containing the disinfecting apparatus with its boilers, etc., measuring 30 feet long by 20 feet wide. A second room measures 42 by 10 feet, and was especially constructed as a disinfecting chamber; the roof, sides, and floor being composed of four thicknesses of lumber, the inner two of which are tongued and grooved and separated by interposed layers of felt paper. The ceiling seams are white leaded and the walls are fitted with woven-wire racks for the thorough spreading out of infected materials during the process of sterilization.

A third chamber is a long, narrow compartment 42 by 8 feet in dimensions, and formerly did service as a baggage storeroom. Owing to the absence of any of the infectious contagious diseases at this port and the more recent discoveries anent quarantinable diseases and their prevention, this plant has not been used since my assuming charge of the station.

Two launches are credited to this station—the launch *Annie*, now dismantled preparatory to being repaired, and the new gasoline launch *Gannet*, received

from the medical purveyor of the Service December 23, 1904. This launch is 36 feet long, 8 feet beam, and is fitted with a 16-horsepower Globe marine engine, built by the Pennsylvania Iron Works Company, Philadelphia.

I boarded all steamers and vaccinated certain passengers from the mainland not showing evidence of a recent successful vaccination from August 23, 1904, the date of my assuming charge, until May 1, 1905, when, upon the orders of the Bureau, this work was discontinued. During the period mentioned upward of three hundred persons were vaccinated.

During my boarding and inspecting of vessels from foreign ports I have the honor to report that no quarantinable diseases were encountered.

Respectfully,

SAML. D. W. LIGHT,  
Acting Assistant Surgeon.

The SURGEON-GENERAL.

[Inclosure.]

*Transactions at Key West national quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Steamers inspected and passed.....	33	28	24	15	18	28	24	26	32	29	36	35	323
Sailing vessels inspected and passed.....	12	6	6	10	8	5	8	5	7	5	8	6	86
Number of crew on steamers.....	1,243	1,043	927	827	842	1,183	1,727	1,302	1,283	1,152	1,851	1,340	14,720
Number of crew on sailing vessels.....	97	42	43	77	48	39	58	35	60	31	61	45	636
Number of passengers on steamers.....	821	730	717	712	512	1,084	1,953	2,344	2,340	1,161	1,560	1,304	15,213
Number of passengers on sailing vessels.....	61	-----	42	80	63	23	37	45	82	44	79	41	568

BOCA GRANDE.

[Boca Grande quarantine; post-office and telegraphic address, Punta Gorda, Fla.]

[Report of Acting Asst. Surg. W. Barnes, in charge.]

*Transactions at Boca Grande national quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Vessels spoken and passed.....	5	5	1	1	4	1	1	1	3	3	3	1	29
Steamers inspected and passed.....	-----	1	3	-----	-----	-----	-----	-----	-----	1	1	-----	6
Sailing vessels inspected and passed.....	-----	-----	-----	-----	1	-----	1	1	-----	3	4	1	11
Number of crew on steamers.....	-----	25	69	-----	-----	-----	-----	-----	-----	62	20	-----	176
Number of crew on sailing vessels.....	-----	-----	-----	-----	11	-----	11	7	-----	23	32	5	89
Number of passengers on steamers.....	-----	2	2	-----	-----	-----	-----	-----	-----	5	10	-----	19
Number of passengers on sailing vessels.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	5	-----	5

W. BARNES,  
Acting Assistant Surgeon.

The SURGEON-GENERAL.

## ST. GEORGES SOUND.

[St. Georges Sound quarantine (East and West Pass), Carrabelle, Fla.]

[Report of Acting Asst. Surg. B. B. Blount, in charge.]

ST. GEORGES SOUND QUARANTINE,  
June 30, 1905.

SIR: In making a report of this station for the year ending June 30, 1905, I have the honor to state that the personnel consists of 1 acting assistant surgeon and 2 attendants--1 attendant here and 1 at West Pass, Apalachicola, Fla.

There are no buildings belonging to the Service.

Respectfully,

B. B. BLOUNT,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

*Transactions at St. Georges Sound national quarantine station for the year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Steamers inspected and passed.....					1								1
Sailing vessels inspected and passed.....				2	4	6	1	6	5	9	5	5	43
Number of crew on steamers.....					24								24
Number of crew on sailing vessels.....				21	36	58	15	56	58	74	40	55	413

## SANTA ROSA.

[Santa Rosa quarantine; post-office and telegraphic address, Pensacola, Fla.]

[Report of Acting Asst. Surg. R. C. White, in charge.]

## SANTA ROSA QUARANTINE, July 6, 1905.

SIR: In compliance with instructions contained in Bureau circular letter of May 9, 1905, to give a description, location, etc., of this station, together with a report of transactions during the fiscal year ending June 30, 1905, I have the honor to report as follows:

Santa Rosa quarantine station was, until August, 1901, conducted by the State of Florida, when it was transferred to and accepted by the Service, and provision was made in the sundry civil bill, approved June 28, 1902, for the purchase of this as well as other Florida quarantine stations thus transferred. This station, located on Santa Rosa Island, about 7 miles from the westerly end and a like distance from the city of Pensacola, is the inspection and boarding station for vessels arriving at this port.

The personnel of the station consists of 1 acting assistant surgeon, 1 pharmacist, and 8 attendants.

The station is equipped with a steam disinfecting plant for the disinfection of clothing of crews of vessels, bedding, etc., and a building is provided for the shelter of vessels' crews while undergoing detention during the process of disinfection of their personal effects. The station has hospital accommodations for a limited number of patients requiring hospital treatment.

The quarters of the station are ample for officers and attendants, consisting of separate cottages for the medical officer in charge and pharmacist, and a commodious building for the attendants.

In addition to the buildings used for quarters, there are accommodations for the customs inspector and pilots of vessels, a new building having been erected for the use of the latter during the year just closed.

The floating property of the station consists of two naphtha launches and a dingey; the smaller of the two launches is used as a boarding boat and the larger is used for carrying mail and provisions daily from Pensacola to the station.

Respectfully,

R. C. WHITE.

Acting Assistant Surgeon, in Charge.

The SURGEON-GENERAL.

[Inclosure.]

*Transactions at Santa Rosa national quarantine station for the year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Vessels spoken and passed.....		1			4	2	7	4	2		1		21
Steamers inspected and passed.....	18	7	7	9	21	13	19	15	16	19	10	13	167
Steamers disinfected.....	2	3	4	5						5	6	2	27
Sailing vessels inspected and passed.....	6	5	4	10	11	18	13	14	14	1	5	3	104
Sailing vessels disinfected.....		1	3	1	2	1		2		1	1	3	15
Number of crew on steamers.....	521	263	327	306	559	437	560	464	448	610	463	423	5,440
Number of crew on sailing vessels.....	75	92	101	185	188	271	149	223	223	23	76	82	1,688
Number of passengers on steamers.....	1	1	1	12	5	3			3		2	2	30
Number of passengers on sailing vessels.....	1		1	2		5	1	3			2		15

#### BISCAYNE BAY.

[Biscayne Bay quarantine; post-office and telegraphic address, Miami, Fla.]

[Report of Acting Asst. Surg. James M. Jackson, jr., in charge.]

#### BISCAYNE BAY QUARANTINE STATION, July 1, 1905.

SIR: I have the honor to report that Biscayne Bay quarantine station is located on the quarantine steamer *McAdam*. The vessel is a flat-bottom river steamer purchased for this purpose in 1901. The disinfecting plant is very complete, consisting of a separate boiler for furnishing steam to the disinfecting plant when steamer boilers are not in use. The disinfecting plant consists of steam sterilizing chamber with cars for same. The vacuum on sterilizing chamber is made by steam jet. Sulphur furnace is supplied with power fan and hose for conveying gas to the vessel undergoing disinfection. The bichloride tank holds 500 gallons, with steam pump and hose for use of same. These are all located on the main or lower deck of the *McAdam* in such position as to be easily accessible in case of disinfection of a vessel brought alongside. The lower deck of the *McAdam* is also fitted with galley and dining room for crew. The upper deck is divided into a saloon and staterooms, of which there are 28 in number, where crews of disinfected vessels can be accommodated till work is done. Above this there is a hurricane deck which is supplied with proper stanchions and a good awning which can easily be stretched and make a good, comfortable assembly room; or a tent could be put up and patients easily isolated in case of suspected sickness. There are sufficient staterooms, each having two berths, for use in an emergency for detention purposes. The quarantine anchorage is  $2\frac{1}{2}$  miles down the bay, at the entrance of the channel. There is here an area of a half mile square used as quarantine anchorage, where the *McAdam* is moored to a first-class iron sinker with 15 fathoms of  $1\frac{1}{2}$  chain during the active quarantine season. This location commands a full view of the bay, and all vessels call and report before entering port. We find that this

not only enables us to know that nothing is slipping by, but also creates public confidence.

There has been nothing of special interest at this station during the past year except the small epidemic of dengue in Miami last fall, which was reported to the Bureau.

Respectfully,

JAMES M. JACKSON, Jr.,  
Acting Assistant Surgeon, in Charge.

The SURGEON-GENERAL.

*Transactions at Biscayne Bay national quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	M r.	Apr.	May.	June.	Total.
Vessels spoken and passed.....	51	55	52	62	73	57	49	41	35	34	73	66	658
Steamers inspected and passed.....	-----	-----	-----	-----	-----	3	16	20	25	14	1	-----	79
Sailing vessels inspected and passed.....	-----	2	1	2	2	1	1	-----	2	2	-----	2	15
Number of crew on steamers.....	-----	-----	-----	-----	-----	135	760	1,040	1,112	638	5	-----	3,650
Number of crew on sailing vessels.....	-----	12	9	16	11	7	7	-----	15	14	-----	18	109
Number of passengers on steamers.....	-----	-----	-----	-----	-----	82	914	2,082	2,645	545	-----	-----	6,218
Number of passengers on sailing vessels.....	-----	14	14	16	27	20	19	-----	25	20	-----	13	168

PORT INGLIS.

[Port Inglis inspection station; post-office and telegraphic address, Dunnellon, Fla.]

[Report of Acting Assistant Surgeon Griffiths, in charge.]

*Transactions at Port Inglis national quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total
Vessels spoken and passed.....	2	-----	-----	1	2	1	-----	-----	1	1	4	1	11
Steamers inspected and passed.....	2	3	1	1	3	1	2	2	3	3	4	-----	27
Sailing vessels inspected and passed.....	-----	-----	1	-----	-----	1	-----	1	1	1	-----	-----	5
Number of crew on steamers.....	108	89	26	46	153	47	57	57	113	130	228	20	1,064
Number of crew on sailing vessels.....	-----	-----	8	-----	-----	9	-----	6	5	5	-----	-----	38

GRIFFITHS,  
Acting Assistant Surgeon.

The SURGEON-GENERAL.



## PASCAGOULA.

[Pascagoula, Miss., quarantine.]

[Report of Acting Asst. Surg. B. F. Duke, in charge.]

PASCAGOULA QUARANTINE, *July 8, 1905.*

SIR: Referring to circular letter of May 9, calling attention to the necessity of transmitting certain reports of operations and other matters concerning the various quarantine stations, I have the honor to state that a tabulated report of the actual transactions has been forwarded as required.

My residence commands an unobstructed view of Horn Island Pass, so that with a good glass I am able to see all that goes on there in daylight, and to observe the approach of vessels in time to meet them promptly on their arrival in the inspection grounds.

During the month of April a few cases of the walking variety of smallpox appeared here, giving the people a scare sufficient to cause 400 or 500 to be vaccinated.

Respectfully,

B. F. DUKE,

*Acting Assistant Surgeon, in Charge.*

The SURGEON-GENERAL.

[Inclosure.]

*Transactions at Pascagoula national quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Vessels spoken and passed.....	4	5	8	8	2	1	-----	2	1	1	4	4	35
Steamers inspected and passed.....	1	1	-----	1	-----	-----	-----	-----	-----	-----	1	-----	4
Sailing vessels inspected and passed.....	3	1	8	4	17	13	13	13	25	18	10	9	134
Number of crew on steamers.....	23	17	-----	16	-----	-----	-----	-----	-----	-----	23	-----	79
Number of crew on sailing vessels.....	55	54	94	76	144	131	118	220	126	150	152	104	1,414
Number of passengers on sailing vessels.....	-----	-----	-----	-----	-----	-----	11	1	6	5	1	1	23

## GULF.

[Gulf quarantine; post-office and telegraphic address, Ship Island, via Biloxi, Miss.]

[Report of medical officer in command, Passed Asst. Surg. C. W. Wille. Assumed command under official orders of March 24, 1905.]

GULF QUARANTINE, SHIP ISLAND, MISS., *July 1, 1905.*

SIR: As directed in Bureau circular letter of May 9, 1905, I have the honor to transmit herewith a report of the quarantine transactions for the fiscal year ending June 30, 1905.

This station is located on Ship Island, a sand bar about 10 miles long and three-fourths mile wide, situated in the Gulf of Mexico, about 12 miles off the coast of Mississippi. The station proper is located on the northern shore about the middle of the island, where infected vessels and vessels from infected ports are subjected to quarantine treatment. Here is maintained an efficient quarantine plant. An inspection station is located on the western end of the island, about 4 miles distant from the main station. This station is available for vessels bound to ports of Mississippi, while vessels with sickness aboard are also remanded from the Mobile quarantine station for treatment.

During the year ended June 30, 1905, 2 cases of yellow fever, 12 cases of malaria, 3 dysentery, 3 enteric fever, and 1 chancroidal bubo received treatment at this station.

Respectfully,

C. W. WILLE,  
Passed Assistant Surgeon.

The SURGEON-GENERAL.

[Inclosure.]

*Transactions at Gulf national quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Vessels spoken and passed.....	3	1	-----	-----	1	-----	1	-----	-----	1	-----	-----	7
Steamers inspected and passed.....	2	3	-----	1	6	2	7	7	3	6	6	4	47
Steamers disinfected.....	2	3	-----	1	-----	-----	-----	-----	-----	1	-----	1	8
Sailing vessels inspected and passed.....	16	7	11	15	15	18	18	10	6	4	12	12	139
Sailing vessels disinfected.....	5	8	6	5	1	1	1	1	2	6	8	9	53
Number of crew on steamers.....	99	157	-----	50	153	52	161	154	73	142	138	112	1,291
Number of crew on sailing vessels.....	263	142	222	224	209	263	151	128	69	93	173	184	2,114
Number of passengers on steamers.....	1	2	-----	-----	-----	1	-----	-----	-----	-----	-----	33	37
Number of passengers on sailing vessels.....	9	2	-----	-----	6	1	6	3	1	-----	-----	-----	28

#### SAN DIEGO.

[San Diego quarantine; post-office and telegraph address, San Diego, Cal.]

[Report of medical officer in charge, Acting Asst. Surg. W. W. McKay. Assumed charge under official orders of April 4, 1889.]

SAN DIEGO QUARANTINE, *July 1, 1905.*

SIR: In compliance with instructions contained in Bureau circular letter of date May 9, 1905, I have the honor to submit herein description and location of San Diego quarantine station and a report of transactions of the same during the fiscal year ending June 30, 1905.

The station is located near the entrance of the Bay of San Diego, 1½ miles north of Fort Rosecrans, which is exactly at the entrance of the bay. The quarantine station was located within the military reservation in 1890, on a block of land purchased by the Treasury Department from a private individual who happened to have good title to land at this particular point on the water front.

In 1891 the War Department transferred all land surrounding the quarantine station to the Navy Department, thus leaving the quarantine station directly in the center of the water frontage of the navy reservation. During the last Congress an effort was made by the Navy Department and the citizens of San Diego, through the Chamber of Commerce, to remove the quarantine station to another point in the bay in order that the Navy might utilize all the water front and land at that point. The bill introduced in Congress for the removal and rebuilding of the station passed the United States Senate, but failed to pass the House. The bill carried an appropriation of \$200,000, the amount estimated several years since, when the first efforts at removal were made. This amount would now be barely sufficient, when taking into consideration that if the station is removed most of it must be placed on iron piling out in the bay, and both labor and materials have greatly advanced in cost since the estimates were made. In addition to the regular inspection of vessels the quarantine officer has made physical examination of 564 aliens coming to this port aboard

the vessels inspected. Of this number 2 were certified for rejection and were deported. During the year 8 vessels were spoken, these being United States Navy vessels from Magdalena Bay, a target-practice resort on a desolate portion of the Mexican coast where navy vessels go for target practice. Ninety-six steamers and 27 sailing vessels were inspected and passed, making a total of 131 vessels from foreign ports, carrying 4,800 crew and 1,318 passengers. No vessels were disinfected, this being accounted for on account of the California and Oriental and Hamburg-American lines of steamships being temporarily discontinued from touching at this port, thus making most of the foreign commerce at present only with near-by Mexican coast ports.

The buildings, improvements, and floating property of the station consist of the following: Quarters for one medical officer, quarters for attendants, hospital for noninfectious cases, laundry, with 12 stationary wash tubs, a Wilke's water heater, and laundry stove; a detention barracks for steerage passengers, a boathouse, with quarters for crew of quarantine steamer; a wharf, with warehouse containing disinfecting machinery and baths. The floating property of the station consists of a steam launch, a gasoline launch, and two small boats.

Respectfully,

W. W. MCKAY,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL

[Inclosure.]

*Transactions at San Diego national quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Vessels spoken and passed.....				5	1				1	1			8
Steamers inspected and passed...	7	5	7	8	7	8	8	10	11	8	8	9	96
Sailing vessels inspected and passed.....	4	5	1	1	5	1	3	2	2	1	1	1	27
Number of crew on steamers.....	146	86	155	485	308	183	171	1,527	237	604	384	331	4,612
Number of crew on sailing vessels.....	26	64	2	31	14	8	29	4	4	2	2	2	188
Number of passengers on steamers.....	163	99	132	107	96	94	92	66	100	90	104	163	1,306
Number of passengers on sailing vessels.....	1	2					4		5				12

LOS ANGELES AND SUBPORTS.

[Los Angeles quarantine; post-office address, Los Angeles, Cal.]

[Report of medical officer in command; Surgeon J. O. Cobb. Assumed command under official orders of November 29, 1902.]

LOS ANGELES QUARANTINE,  
*July 6, 1905.*

SIR: I have the honor to transmit herewith annual report of quarantine transactions at Port Los Angeles, San Pedro, and Santa Barbara, for the fiscal year ending June 30, 1905.

Respectfully,

J. O. COBB, *Surgeon.*

The SURGEON-GENERAL

*Transactions at Los Angeles national quarantine station and subports for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Steamers inspected and passed	-----	2	-----	1	-----	1	-----	1	-----	1	-----	2	8
Sailing vessels inspected and passed	1	1	1	2	2	1	1	-----	1	1	1	2	14
Number of crew on steamers	-----	41	-----	11	-----	29	-----	49	-----	31	-----	75	236
Number of crew on sailing vessels	29	31	23	57	56	26	27	-----	43	3	23	33	356
Number of passengers on steamers	-----	-----	-----	-----	-----	-----	-----	18	-----	-----	-----	43	61
Number of passengers on sailing vessels	-----	-----	-----	-----	-----	-----	-----	-----	-----	1	-----	-----	1

## SAN FRANCISCO.

[San Francisco quarantine; post-office and telegraphic address, Angel Island, Cal.]

[Report of medical officer in command, Passed Asst. Surg. Hugh S. Cumming. Assumed command under official orders of December 28, 1901.]

SAN FRANCISCO QUARANTINE, *June 30, 1905.*

SIR: I have the honor to submit the following report of the transactions at this quarantine station during the year ended June 30, 1905:

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Vessels boarded and passed	2	5	4	1	2	-----	3	2	-----	-----	3	-----	22
Steamers inspected and passed	31	39	36	36	36	36	36	35	40	39	44	36	444
Steamers disinfected	2	2	-----	2	1	-----	-----	-----	1	2	3	2	15
Sailing vessels inspected and passed	31	31	72	54	45	12	17	17	30	24	25	34	392
Sailing vessels disinfected	1	1	3	1	-----	1	-----	-----	-----	1	1	1	10
Number of crew on steamers	3,108	3,235	2,969	3,011	3,673	3,053	2,947	3,460	2,636	2,635	3,495	2,592	36,909
Number of crew on sailing vessels	572	601	1,985	1,249	980	237	238	276	476	336	446	659	8,155
Number of passengers on steamers	5,131	4,558	3,997	4,405	4,435	3,738	3,732	3,787	3,323	4,984	6,056	4,481	52,627
Number of passengers on sailing vessels	141	108	4,212	533	425	-----	11	15	10	30	42	43	1,770
Number of vessels from ports infected with cholera or plague	17	17	18	21	20	15	14	22	19	16	26	23	228
Number of vessels from yellow-fever ports	5	4	2	5	6	5	6	5	7	8	5	3	61
Number of persons detained in quarantine	147	274	386	458	63	26	-----	-----	39	137	799	131	2,460
Number of cases treated in isolation hospital	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	6	-----	6
Number of vessels held for diagnosis	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1	-----	1

During the year 883 vessels (481 steamers and 402 sailing vessels) were inspected and 25 vessels were disinfected. Upon these vessels a total of 101,921 persons were inspected, and of these 2,460 were detained in quarantine.

Two cases of smallpox were treated in the hospitals, and 14 cases were held in isolation cabins pending diagnosis.

One vessel was held in quarantine pending a diagnosis.

One vessel arrived with smallpox on board and one case was discovered during detention. One vessel arrived having had a death from plague, and one having had yellow fever on board en route.

To guard against infection of the city by rats from vessels arriving from plague ports, vessels from plague ports are directed to use rat guards, raise gang planks, etc., and the custom officials have continued to assist in this work by watching vessels.

The west coast of America continues to be a menace, although the medical officers stationed at Callao and Guayaquil have lessened both the danger and the necessity of detaining vessels.

The necessity of providing better facilities for boarding and inspection has been recognized by the Bureau, and a disinfecting plant and steam tug, which will be suitable for boarding as well as handling the disinfecting barge, have been started. An appropriation is now available for telephone communication between the station and the city, and this will add much to the efficiency of the station.

The relations of the Service with municipal and State health officials and societies continue pleasant, and the coordinate branches of the Federal Government continue to render assistance, this being particularly true of the branches of our own Department, the customs and Revenue-Cutter Service.

Respectfully,

HUGH S. CUMMING,  
*Passed Assistant Surgeon in Command.*

The SURGEON-GENERAL.

EUREKA.

[Eureka (Cal.) quarantine.]

[Report of Acting Asst. Surg. C. V. Thompson, in charge.]

*Transactions at Eureka national quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Sailing vessels inspected and passed .....	1	1	1	1	-----	-----	-----	1	-----	-----	1	1	7
Number of crew on sailing vessels .....	8	8	10	8	-----	-----	-----	8	-----	-----	9	8	59
Number of passengers on sailing vessels .....	1	-----	-----	-----	-----	-----	-----	1	-----	-----	-----	-----	2

Respectfully,

C. V. THOMPSON,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

COLUMBIA RIVER.

[Columbia River quarantine; post-office and telegraph address, Astoria, Oreg.]

[Report of medical officer in command, Asst. Surg. Baylis H. Earle. Assumed command under official orders of November 28, 1900.]

COLUMBIA RIVER QUARANTINE, *July 20, 1905.*

SIR: I have the honor to submit the following report of the transactions of the Service at this station during the fiscal year ending June 30, 1905:

Sixty-two vessels of all classes arrived at this port during the fiscal year

ended June 30, 1905, for quarantine inspection, of which number 60 were inspected and passed and 2 were detained. One of those detained, the French bark *Ville de Mülhouse*, from Hamburg, Germany, had had a death from tuberculosis on board only a few days before arrival, and was detained a sufficient length of time to have the room in which the deceased had been isolated fumigated and cleaned in accordance with the regulations on the subject.

The British steamship *Elleric*, from Shimonoseki, Japan, had two cases of smallpox on board at the time of arrival. One of these, a Chinese fireman, was convalescent from a mild attack of varioloid. The other, the master of the vessel, a man of about 50 years of age, had been sick three days with severe premonitory symptoms of the disease. The men were at once isolated on shore, with a member of the crew in attendance on each. The entire crew were bathed and their effects and the entire vessel disinfected in accordance with the regulations. All the crew, together with the entire quarantine force, were vaccinated, and those failing to take were revaccinated after four days' observation. Certain members of the crew having communicated with the sick master's room in defiance of orders and then with the others and the vessel, the crew and the vessel were detained longer than would otherwise have been necessary, and the entire disinfection process repeated.

Asst. Surg. Baylis H. Earle was directed by Bureau letter of April 6, 1905, to proceed to such places as might be necessary on Yaquina Bay, Siuslaw River, Umpqua River, and Coos Bay, Oregon, and make inspections of them and recommendations as to the appointments of acting assistant surgeons for duty as United States quarantine inspectors. Accordingly, he left Astoria by steamer on April 19, 1905; visited all necessary places on Coos, Alsea, and Yaquina bays, and the Coquille, Siuslaw, and Umpqua rivers, and returned to Astoria on May 12, 1905, having been substituted during his absence by temporary Acting Asst. Surg. Robert J. Pilkington.

#### STATE QUARANTINES.

In his inaugural address to the twenty-second legislative assembly of the State of Oregon (1903), His Excellency Governor George E. Chamberlain had recommended that, inasmuch as the Federal Government had established and was maintaining a quarantine station at the mouth of the Columbia River, the position of State health officer at the port of Astoria, Oreg., be abolished, and that the amounts of service performed, respectively, by the State health officers at Coos Bay, the Umpqua River, and Yaquina Bay be inquired into and a salary paid each commensurate therewith.

A bill embodying the governor's recommendations was introduced in the lower house of the legislature, but could not be brought to a vote in the upper house for lack of time before the close of the forty days' session.

In his biennial message to the twenty-third legislative assembly of the State of Oregon (1905), having been advised that if the State would abolish its entire quarantine service the Federal Government would take control of and administer the same, the governor recommended their abolition in the following words:

"Health officers are maintained at Astoria, Gardiner, Marshfield, and Yaquina Bay at an annual expense of \$2,700. This might, with propriety, be saved to the State by doing away with these stations. The United States maintains a quarantine station at Astoria, in charge of a capable physician, and I have assurances that if the stations at the other points named are abolished they will likewise be placed under Federal control. I renew my recommendation of two years ago for the abolishment of the State quarantine service at the points named, because I feel that their establishment and maintenance along the coast comes more properly within the jurisdiction and control of the Federal authorities."

A bill embodying the governor's recommendations was introduced in the State senate, was referred to a committee for investigation and report, and reported favorably therefrom, but some objections having been raised, was rereferred to the committee until definite assurances could be obtained directly from the Department that the Federal Government would take control of and administer all of the State quarantines in case of their relinquishment by the State. The assurance having been received from the Department by telegraph, the bill was again reported favorably, made a special order of business, and passed by both houses unanimously. A concurrent resolution was then introduced in the State senate and unanimously passed directing the secretary of state to notify the

Surgeon-General of this Service of the action of the State legislature and to request that acting assistant surgeons be appointed to serve as United States quarantine inspectors at the ports of Coos, Tillamook, and Yaquina bays and of the Siuslaw and Umpqua rivers. The governor also officially notified the Bureau of the action of the legislature and requested the establishment of a Federal quarantine service at the ports of Coos and Yaquina bays and of the Siuslaw and Umpqua rivers.

Accordingly, by direction of the Bureau, the medical officer in command of this station made inspections of these places, between April 9, and May 12, 1905, inclusive, and made the following recommendations:

That the Coos Bay and Coquille River entrances, the Umpqua River entrance, the Siuslaw River entrance, and the Yaquina Bay, Alsea Bay, and Siletz River entrances be made national quarantine inspection stations, and each be placed under the charge of an acting assistant surgeon in this Service, detailed for duty as United States quarantine inspector, effective July 1, 1905; and, also, that all of these stations, together with the Columbia River quarantine station, be made to constitute the Oregon national quarantine and placed under the command of the medical officer in command of this station.

The relations of the Service at this station with the State, county, and city authorities, and with the other Federal services, are of the very pleasantest nature possible.

Respectfully,

BAYLIS H. EARLE,  
Assistant Surgeon, in Command of Station.

The SURGEON-GENERAL.

[Inclosure.]

*Transactions at the Columbia River national quarantine station for the year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Vessels spoken and passed.....	6	7	8	7	12	3	2	4	2	4	5	2	62
Steamers inspected and passed.....	1	3	1	1	4	1	1	2	1	2	4	2	23
Steamers disinfected.....					1								1
Sailing vessels inspected and passed.....	5	4	7	6	6	2	1	2	1	2	1		37
Sailing vessels disinfected.....					1								1
Number of crew on steamers.....	62	93	48	60	153	52	59	99	52	248	175	95	1,196
Number of crew on sailing vessels.....	60	322	490	162	173	33	24	38	14	37	26		1,379
Number of passengers on steamers.....	38				3					545			583
Number of passengers on sailing vessels.....	8			2	1								11

PORT TOWNSEND AND SUBPORTS.

[Port Townsend quarantine; post-office and telegraphic address, Port Townsend, Wash.]

[Report of medical officer in command, Passed Asst. Surg. J. H. Oakley. Assumed command under official orders of May 28, 1903.]

PORT TOWNSEND QUARANTINE, July 1, 1905.

SIR: I have the honor to submit the following report of transactions at this station during the fiscal year ending June 30, 1905:

The headquarters of this station are located at this port and the boarding and inspection of vessels is done in Port Townsend Bay.

The hospital and disinfecting station, comprising a group of 23 buildings, is located on the quarantine reservation at Diamond Point, Washington, on the western shore of Port Discovery Bay, at its mouth, and is about 11½ miles by water from this port.

The water off Diamond Point is deep, and the holding ground for anchorage is poor, besides vessels anchoring off the quarantine station would be exposed to gales from all points of the compass except those rare ones that blow directly off shore, consequently when detained at quarantine vessels have to go up the bay and anchor off the mouth of Eagle Creek, which is 2½ miles from Diamond Point.

During the year 266 vessels were boarded; of these 141 were steam vessels and the remaining 125 were sailing vessels.

Of the total number boarded, 261 were inspected and passed and 5 (all sailing vessels) were sent to quarantine for disinfection.

The 266 vessels carried a total of 16,876 passengers and 13,276 persons in their crews.

Shipping from the Orient has been light during the year on account of the war in the Far East.

The few vessels arriving from Shanghai have undoubtedly taken the advice of our representatives there and have taken ballast brought from the Saddle Islands or clean beach sand instead of mud from the flats about the city.

Vessels that go to dock in the Orient bring bills of health on which is noted the fact that they used precautions against rats going aboard while at dock.

During the year 7 sailing vessels and 1 steamer, with a total of 315 persons in their crews, were inspected and passed at Port Angeles, Wash., and 5 sailing vessels, with a total of 55 persons in their crews, were inspected and passed at South Bend, Wash., during the same time.

Respectfully,

**J. H. OAKLEY,**  
*Passed Assistant Surgeon.*

**The SURGEON-GENERAL.**

[ Inclosures. ]

*Transactions at Port Townsend national quarantine station for year ending  
June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Steamers inspected and passed ..	10	9	9	12	11	9	10	12	14	17	14	14	141
Sailing vessels inspected and passed .....	15	4	14	18	14	6	9	8	5	7	9	11	120
Sailing vessels disinfected .....				2							1	2	5
Number of crew on steamers .....	835	747	691	888	984	788	870	942	881	1,298	1,177	1,164	11,157
Number of crew on sailing vessels .....	255	58	238	332	228	134	138	128	100	135	196	242	2,119
Number of passengers on steamers .....	1,490	1,461	1,807	1,852	1,980	1,395	1,225	1,106	798	1,533	1,095	1,066	16,813
Number of passengers on sailing vessels .....	6	3	7	17	6	3	6	3	3	-----	-----	9	63

*Transactions at Port Angeles national quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Steamers inspected and passed.....	1												1
Sailing vessels inspected and passed.....	1			5		1							7
Number of crew on steamers.....	180												180
Number of crew on sailing vessels.....	11			128		16							155
Number of passengers on sailing vessels.....				2		1							3



*Transactions at South Bend national quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Sailing vessels inspected and passed				2	1	1		1					5
Number of crew on sailing vessels				23	11	9		12					55

Respectfully,

J. H. OAKLEY,  
*Passed Assistant Surgeon.*

## GRAYS HARBOR.

[Grays Harbor quarantine; post-office and telegraphic address, Hoquiam, Wash.]

[Report of Acting Asst. Surg. T. C. Frary, in charge.]

*Annual report of transactions at Grays Harbor national quarantine station for year ending June 30, 1905.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Sailing vessels inspected and passed	4	1	1	1	3	2	2	3	2	2	4	6	31
Number of crew on sailing vessels	46	10	8	8	29	18	19	30	27	20	46	63	324
Number of passengers on sailing vessels	5		4		2	1	2	5		1	1	1	22

## NOME, ALASKA.

[Nome, Alaska, quarantine.]

[Report of Acting Asst. Surg. A. L. Derbyshire, in charge.]

NOME QUARANTINE, July 19, 1905.

SIR: Bureau letter April 19, 1905, requested report of number of vessels from foreign ports entering this port for the fiscal year ending June 30, 1905. I have the honor to report a total of 28 during year. Twelve of these were whalers sailing from San Francisco, some three months previous to arrival here, touching at Siberian points en route; 16 were mostly from British Columbia ports, loaded with coal; the U. S. revenue cutter *Thetis*, from Honolulu, and several excursion boats on their return trip between Nome and Siberian points were included.

Respectfully,

A. L. DERBYSHIRE,  
*Acting Assistant Surgeon.*

The SURGEON-GENERAL.

## EL PASO, TEX.

[Report of Acting Asst. Surg. E. Alexander.]

*Transactions at El Paso, Tex., from July 1, 1904, to June 30, 1905.*

Month.	Inspection of Mexican Central passen- gers.	Disinfection of soiled linen and other articles.	Certifi- cates of death.	Vaccina- tion of im- migrants and their children.	Detention of suspects from 3 to 5 days.	Fumiga- tion of bones and hides.
1904.		<i>Pieces.</i>				<i>Carloads.</i>
July .....	851	1,724	1	8	2	1
August .....	912	1,518	1	16	2	-----
September .....	604	1,476	-----	6	-----	-----
October .....	923	1,529	-----	26	-----	2
November .....	835	1,560	-----	28	-----	-----
December .....	1,223	1,808	-----	22	-----	-----
1905.						
January .....	956	11,121	8	16	-----	-----
February .....	1,050	1,529	2	9	-----	1
March .....	1,158	1,560	-----	-----	-----	1
April .....	1,365	1,225	5	8	9	1
May .....	883	2,065	-----	19	-----	2
June .....	1,031	2,133	4	35	-----	1
Total .....	11,731	19,224	16	193	13	9

E. ALEXANDER,  
*Acting Assistant Surgeon.*

## CONCLUSION.

The above report covers the work of the Service coming under the Bureau division of domestic quarantine during the fiscal year.

Respectfully submitted.

A. H. GLENNAN,  
*Assistant Surgeon-General.*

The SURGEON-GENERAL.

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**DIVISION OF SCIENTIFIC RESEARCH AND SANITATION.**

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## REPORT OF THE DIVISION OF SCIENTIFIC RESEARCH AND SANITATION.

By H. D. GEDDINGS,

*Assistant Surgeon-General, Public Health and Marine-Hospital Service, in  
Charge.*

SIR: I have the honor to submit the following report of the operations of the Bureau division of scientific research for the fiscal year ending June 30, 1905:

The work of the division has been continued this year as in the previous years, embracing the review of medical and scientific journals and the card indexing of all subjects pertinent to the communicable diseases and to the public health. The subject of tuberculosis furnishes by far the largest number of references, due to the great interest and enthusiasm aroused by associations and societies devoted to the prevention of the spread of this disease. The total number of articles indexed during the past twelve months amounts, approximately, to 2,500.

### YELLOW-FEVER INSTITUTE.

Yellow-Fever Institute Bulletin No. 14 was issued in May, 1905. This bulletin constitutes the report of working party No. 2, the preliminary report of which party was published in Public Health Reports of December 18, 1903.

As stated in the preliminary report, working party No. 2 was not able to corroborate the findings of working party No. 1 in regard to the etiology of yellow fever. Bulletin No. 14 contains much that is of interest upon the subject of the spread of diseases by the mosquito.

With the approval of the Secretary of the Treasury, the Yellow-Fever Institute will continue its work on the Isthmus of Panama, investigating the cause of yellow fever and other problems in relation to this disease and to malarial fever.

### THE NATIONAL INVESTIGATION OF LEPROSY.

Below is given a copy of the act approved March 3, 1905, providing for the investigation of leprosy, with special reference to the care and treatment of lepers in Hawaii.

The President, in that portion of his annual message to Congress, December 6, 1904, relating to Hawaii, called attention to the matter in the following words: "The Marine-Hospital Service should be empowered to study leprosy in the islands."

The act is the culmination of efforts to secure relief for those afflicted with this loathsome disease and at the same time to secure a promising field for original research.

The correspondence between the Surgeon-General and the authorities in the territory of Hawaii is also given.

The Surgeon-General spent a part of the month of June in the islands selecting a site for the proposed hospital and laboratory buildings and in procuring from the Territorial government the necessary grant of one mile square of land on the island of Molokai.

Appended also is the report of Passed Asst. Surg. L. E. Cofer, setting forth the details of the Surgeon-General's visit and giving a description of the island of Molokai, the leper settlement, the proposed Government reservation, and giving a description of the climate, resources, and advantages of the site selected.

#### ACT OF CONGRESS.

AN ACT To provide for the investigation of leprosy, with special reference to the care and treatment of lepers in Hawaii.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That when the Territorial government of Hawaii shall cede to the United States in perpetuity a suitable tract of land one mile square, more or less, on the leper reservation at Molokai, Hawaii, there shall be established thereon a hospital station and laboratory of the Public Health and Marine-Hospital Service of the United States for the study of the methods of transmission, cause, and treatment of leprosy.

Sec. 2. That the Secretary of the Treasury be, and he is hereby, authorized to cause the erection upon such site of suitable and necessary buildings for the purposes of this Act, at a cost not to exceed the sum herein appropriated for such purpose.

Sec. 3. That for the purposes of this Act the Surgeon-General, through his accredited agent, is authorized to receive at such station such patients afflicted with leprosy as may be committed to his care under legal authorization of the Territory of Hawaii, not to exceed forty in number to be under treatment at any time, said patients to remain under the jurisdiction of the said Surgeon-General, or his agent, until returned to the proper authorities of Hawaii.

Sec. 4. That the Surgeon-General of the Public Health and Marine-Hospital Service of the United States is authorized to detail or appoint, for the purposes of these investigations and treatment, such medical officers, acting assistant surgeons, pharmacists, and employees as may be necessary for said purpose.

Sec. 5. That the sum of one hundred thousand dollars is hereby appropriated, from any money in the Treasury not otherwise appropriated, for the erection of necessary buildings and other equipment; and fifty thousand dollars, or so much thereof as may be necessary, for maintenance and pay of all officers and employees during the fiscal year ending June thirtieth, nineteen hundred and six.

Sec. 6. That the Surgeon-General of the Public Health and Marine-Hospital Service shall, subject to the approval of the Secretary of the Treasury, make and adopt regulations for the administration and government of the hospital station and laboratory and for the management and treatment of all patients of such hospital.

Sec. 7. That when any commissioned or noncommissioned officer of the Public Health and Marine-Hospital Service is detailed for duty at the leprosarium herein provided for, he shall receive, in addition to the pay and allowances of his grade, one-half the pay of said grade and such allowances as may be provided for by the Surgeon-General of the Public Health and Marine-Hospital Service, with the approval of the Secretary of the Treasury.

Approved, March 3, 1905.

#### LETTERS FROM HAWAIIAN BOARD OF HEALTH.

##### TERRITORIAL BOARD OF HEALTH, HAWAII.

*Honolulu, Hawaii, November 25, 1904.*

MY DEAR SIR: Your favor of November 5 at hand. While we regret that you have found it impossible to visit our midocean Territory this fall, the encouragement you give us that you have the interest of our wards, the lepers, at heart and that you are endeavoring to accomplish something at the coming session of Congress in their behalf, is most gratefully received.

Personally I would say, were any judge called upon to pass life sentences on over 700 persons a year, some of them small children, it would wrench the heart of the judge and arouse public comment. That is what we are obliged to do. The president of the board of health is obliged to turn a deaf ear without exception to the appeals of parents for their children, sisters for brothers, children for parents.

We hope you will be able to secure \$150,000 for the purposes proposed, and that the promptest measures may be taken in providing the necessary hospitals and facilities in securing a remedy and its application among our lepers. The physicians of the board of health will, within ten days, forward you the details of their recommendations based on known conditions and experience.

Our Delegate to Congress, the Hon. J. K. Kalaniana'ole, at his departure, inquired what course he should pursue in this matter, and I advised him to act only on the instruction of the board of health.

A letter is forwarded him by this mail requesting him to call upon you and, if any action or cooperation on his part is necessary, to act solely in conjunction with your honorable self and under your advice and direction.

Renewing our invitation and assuring you of our appreciation of your interest in behalf of our lepers, I beg to remain,

Very respectfully,

L. E. PINKHAM,  
*President Board of Health.*

The SURGEON-GENERAL.

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TERRITORIAL BOARD OF HEALTH, HAWAII,  
*Honolulu, Hawaii, November 26, 1904.*

DEAR SIR: At the late meeting of the American Medical Association a resolution was adopted urging the establishment of a Government station on Molokai, for the study of leprosy. The resolution reads as follows:

"Whereas the acquisition by the United States of insular possessions, in which a considerable amount of leprosy exists, particularly in Hawaii, has increased the responsibility of the Government in the case of these unfortunate beings: Therefore, be it

"Resolved, That the American Medical Association urges on the Federal authorities the establishment of an experimental station, including hospital and laboratories, at the leper settlement in the island of Molokai, Hawaii, for the investigation and study of leprosy, looking especially toward the cure of the disease."

Your reference committee on hygiene and public health fully indorses these resolutions and urges their adoption.

It was moved and seconded that the report on these resolutions be adopted. Carried.

The undersigned, a committee appointed by the Territorial board of health of Hawaii, for the purpose of presenting an approximate estimate of the requirements necessary to the carrying out of the above resolution, respectfully submit the following recommendations:

The number of patients to be under the observation and treatment of the leprologist appointed by the Federal Government is a matter entirely for his decision. For purposes of calculation, however, it is probable that, from the protean forms of the disease presented by 1,000 patients now on Molokai, not fewer than 50 may be selected for special study and experiment. There would be required, therefore, (1) a hospital building, with a capacity for 50 beds, with nurses' quarters, operating room, treatment rooms, etc.; (2) a laboratory building; (3) a necrological building; (4) residence for physician and assistant physician.

The probable cost of these structures and their equipment would be, in round numbers:

Hospital building.....	\$30,000
Furnishing and equipment of same.....	10,000
Laboratory building.....	10,000
Equipment of same.....	5,000
Necrological building.....	5,000
Residences of physician and assistant physician.....	20,000

Total..... 80,000

Adding to this estimate the salaries of the medical men and their assistants, the cost of the upkeep of the station, and the various expenses incident to its establishment, it would seem to us that an appropriation of not less than \$100,000 would meet the requirements.

The leper settlement at Molokai comprises 6,348 acres. A site therein for the station could be selected by a commission appointed by the United States Public Health and Marine-Hospital Service and the Territorial board of health. The tract of land so chosen can be deeded in perpetuity to the United States.

It is our earnest hope that the measure so heartily indorsed and so warmly advocated by the great medical council of our nation will be carried to a speedy realization. It can scarcely be open to doubt that the station, when fully established, will be prolific of results in this almost untrodden field of medical research, offering, as it will, unprecedented opportunities for the study for a cure of this terrible disease.

We beg to remain, very respectfully,

CHAS. B. COOPER, M. D.,  
W. H. MAYS, M. D.,  
D. E. PINKHAM,

*Committee of Territorial Board of Health.*

The SURGEON-GENERAL.

LETTER FROM THE SURGEON-GENERAL TO THE SECRETARY OF THE TREASURY COMMENTING ON THE BILL AND RECOMMENDING ITS PASSAGE.

TREASURY DEPARTMENT,  
BUREAU OF PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
*Washington, January 10, 1905.*

SIR: I have the honor to acknowledge receipt, by reference from the Department, of the communication of December 22, 1904, from the Committee on Interstate and Foreign Commerce, House of Representatives, United States, inclosing copy of a bill, H. R. 16914, and asking that you furnish the committee with such suggestions as may be deemed proper touching the merits of the bill and its passage.

In reply I would invite your attention to the fact that the subject of leprosy in the Hawaiian Islands has engaged the attention of the health authorities of these islands for many years, and that there has been in existence for many years upon the island of Molokai a settlement to which all cases of leprosy coming under the notice of the health authorities are sent. In addition to the precaution of segregating the lepers in this settlement, there is a systematic search made for lepers among the natives and residents of the islands.

The regulations upon this subject are very strict, and in a recent communication received by the Surgeon-General of the Public Health and Marine-Hospital Service from the president of the Territorial board of health of Hawaii he dwells upon the fact that the position of the board of health is that of sentencing to perpetual banishment from their homes and families more than 100 persons per year.

I further have to invite your attention to the fact that Dr. C. B. Cooper, at that time the secretary and still a member of the Territorial board of health of Hawaii, presented at the second annual conference of State health officers with the Public Health and Marine-Hospital Service a report upon leprosy in the Hawaiian Islands, in which was strongly urged upon the national authorities the establishment of an experiment station for the study of the treatment and a method of cure for leprosy.

As has been brought to your attention in a communication upon House bill No. 16913, the cause of leprosy is known, but it must be stated with regret that the medical profession is almost as impotent in the treatment of the disease as it was hundreds of years ago. It is a fact that from time to time certain remedies have been vaunted for the treatment and cure of leprosy. From time to time empirical methods in the treatment of leprosy, resulting in cure, have been announced, and while it is undeniable that leprosy is sometimes cured, the percentage of such cases cured is very small, and it would seem that intelligent concerted effort looking to the perfection of a cure of the disease is needed.

The proposed experiment station within the limits of the leper settlements at Molokai appears particularly proper. The settlement is remote from all other islands of the Hawaiian group; the isolation is perfect, and it is a well accepted fact in the Territory of Hawaii that any case of leprosy discovered



must pass into the hands of the authorities at the leper settlement. Leprosy in the Molokai settlement is presented under every type, and every clinical feature of the disease can be seen and studied to advantage. The Territorial government of Hawaii has felt ever since its admission into the United States that they need help to confront the leprosy problem, as the disease is certainly not decreasing in the islands, and the maintenance of the leper settlement without the prospect of discovering some definite cure for the disease is a serious tax upon the resources of the Territory. They do not ask that the leper settlement be maintained at national expense, but simply that the national authorities, with the facilities afforded by the said settlement, enter into the serious study of producing a cure for the disease and eliciting further information as to the methods of its dissemination. It would be a matter of undoubted advantage to have a large number of lepers afforded by this settlement available for observation at an experiment station, as the patients are almost all of a race whom many years of observation have shown to be particularly susceptible to the infection. Study at this point might be expected to elicit information of much importance in various directions, many of which have been enumerated above.

The Bureau is in receipt of the most definite assurances from the Territorial board of health of Hawaii that a reservation of sufficient size will be set apart within the limits of the settlement and ceded to the United States in perpetuity, and that every facility in the way of patients, etc., will be placed at the disposal of the General Government should Congress deem it advisable to enter upon this study.

It is to be noted that in section 3 of this act the Surgeon-General, through his accredited agent, is authorized to receive at such (experiment) station patients afflicted with leprosy committed to his care under legal authorization of the Territory of Hawaii, and that such patients shall remain under his jurisdiction until returned to the proper authorities of Hawaii. For the proper equipment of such an experiment station there will be needed hospital buildings, quarters for medical officers, attendants, and employees, laboratory buildings, a mortuary, and other structures of an administrative and executive character. The probable cost of these buildings would be as follows: Hospital building for 50 beds, and furnishing and equipment of the same, \$40,000; laboratory building, and equipment of the same, \$20,000; mortuary, \$5,000; residence of physician and assistant, \$20,000; total for buildings, \$85,000; maintenance of patients, salaries of officers and employees, and miscellaneous expenses, \$65,000. Making a total of \$150,000.

There is every reason why the General Government should engage in this investigation, and it is believed that it would be a reproach to the scientific and sanitary authorities of the United States to fail to avail themselves of such a rich field for the study of a disease at once interesting and important from an economic standpoint.

Respectfully,

WALTER WYMAN,  
*Surgeon-General.*

The SECRETARY OF THE TREASURY.

LETTER FROM PASSED ASSISTANT SURGEON COFER RELATIVE TO SELECTION OF SITE AT MOLOKAI.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Honolulu, Hawaii, June 15, 1905.*

SIR: In accordance with your directions, I have the honor to report in detail the events of public importance which occurred during and as a result of your recent visit to Honolulu, Territory of Hawaii.

Within a few hours of your arrival on the morning of June 7, 1905, the official call upon Governor Carter was made. This call was immediately turned into a conference, during which the leprosy situation in Hawaii was discussed from every standpoint. Governor Carter gave a résumé of the history of leprosy in Hawaii and demonstrated its close association with the traditions, sentiment, and domestic and political life of the Hawaiians. General Wyman narrated the causes which so remotely and directly led up to the passage of the act which promised so much for medical science in general and for the lepers in particular, and for the execution of the terms of which his visit to Hawaii was made. After discussing some of the details for the trip to the leper settlement, Friday evening of June 9 was fixed as the time of departure.

During the afternoon of the same day the leper station at Kalihi, the Kapiolani Home for the nonleprous children of lepers, also at Kalahi, and the Hawaiian Insane Asylum were visited, in company with President L. E. Pinkham, of the Hawaii board of health.

On June 9 a general inspection of the various departments of the station was held. The quarantine station was looked over in detail, and many points concerning its administration were brought up and acted upon by Surgeon-General Wyman.

At 11 o'clock in the evening of June 9 the steamer *Likelike*, placed at General Wyman's disposal by President C. L. Wight, of the Wilder Steamship Company, left Honolulu for the leper station on the island of Molokai. The Surgeon-General was accompanied by Governor George R. Carter, Hon. W. P. Hepburn, of Iowa; Hon. W. O. Smith, of Hawaii; President L. E. Pinkham, of the Hawaii board of health, and Passed Asst. Surg. L. E. Cofer. Dr. C. B. Cooper was unable to make the trip, having been unavoidably detained at the last moment. Among those invited were President Charles Wight, of the Wilder Steamship Company; Capt. A. P. Niblack, U. S. Navy; Dr. J. D. Yost, U. S. Army; Doctor Peck, U. S. Navy; Mr. Roy Chamberlain, collector of internal revenue; Senator Paris, of the Hawaiian legislature, and Mr. C. A. Brown. Mr. Olaf Sorensen, of the surveyor's office, and three assistants, also accompanied the party.

The landing at Kalaupapa, the principal village in the settlement was made at 8 o'clock on the following morning, June 10. Superintendent J. D. McVeigh received the visitors at the wharf, and, after assigning them to carriages, conducted them to his hospitable home. The procession was flanked by a large escort of Hawaiians in uniform and headed by a brass band.

After breakfast, and without parley and delay, the work was begun. This work of selecting the site for the new institution marks the real beginning of the move toward the investigation of leprosy, as provided for by the Hepburn bill. The task was a serious one, involving much thought, discussion, and labor. Governor Carter and General Wyman together adjusted the interests of Hawaii and the requirements of the Hepburn act, respectively. Hon. W. O. Smith, for a long time interested in and familiar with the leper settlement and its details, rendered invaluable aid by his suggestions and explanations. Several times it was necessary to call in Colonel Hepburn to clear up questions which demanded the attention of one with his knowledge of affairs and long experience. President L. E. Pinkham, of the Hawaii board of health, and Passed Asst. Surg. L. E. Cofer, United States Public Health and Marine-Hospital Service, were constantly present to aid Governor Carter and General Wyman, respectively. Technical points and drawings were demonstrated by Assistant Surveyor O. J. Sorensen and Superintendent J. D. McVeigh. The party started out with the following data available:

*Island of Molokai.*—Situated due east and 51 miles from Honolulu. Its area includes 200,000 acres.

*Site of present leper settlement.*—A tongue-shaped projection of land, bounded on two sides by the ocean and on the remaining side by an almost vertical mountain wall from 1,800 to 2,000 feet high, the shore line being precipitous and rocky, excepting only in two places—one at Kalaupapa and the other near Kalawao, where in good weather boats can land in safety. The landing at Kalawao will be referred to later as having been transferred as a part of the holdings of the United States for the use of the National Leprosy Investigation Station.

*Area of the whole settlement tract.*—The area of the whole settlement tract or peninsula as a whole is 5,000 acres.

*Soil.*—This varies in character. In certain parts of the tract fruits, taro, potatoes, and many other vegetables are grown. Certain areas are devoted to grazing purposes, and still others to the growing of trees for firewood. A relatively large area is arid, and in its present unimproved state practically worthless.

*Lava rock.*—Abounds everywhere, although it is said to be too porous and soft for purposes of construction.

*Fish.*—The sea around about abounds with fish.

*Trees.*—In the district of Kalaupapa and Kalawao there are a large number of trees and shrubs. Indeed many of the houses have grounds or yards which, with their stone fences, neatly kept walks, lawns, and flower beds present a very attractive appearance.

*Roads.*—The roads are ample for all practical purposes, and are in a very good state of repair.

*Policing.*—This is carried out in a highly creditable manner.

*Climate.*—Naturally cool. In the winter it is frequently quite cold. The prevailing winds are from the east. In Kalawao the force of the wind is much greater than in Kalaupapa, although during a "kona," or storm from the south, Kalaupapa receives the brunt of the wind.

*Rainfall.*—No observations have ever been made save during the two months just past, and therefore no records are obtainable. Superintendent McVeigh reports the rainfall at the settlement to be less than that of Honolulu. The average rainfall at Honolulu in the city is 46.79 inches.

*Temperature.*—Average minimum about 65°; average maximum about 72°.

*Water supply.*—Estimated by Superintendent McVeigh to be about 1,000,000 gallons daily. The source of the present water supply is a never failing spring in Waikolo Valley. The spring at present is diverted into a small catch basin, which latter is very soon to be enlarged so as to have the dimensions of 20 feet square by 20 feet deep. An 8-inch pipe carries the water from said catch basin down the valley and around the foot of the cliff separating Waikolo Valley from Waialeala Valley, thence along the beach, where it is exposed to the waves and falling rocks. After clearing the foot of the cliff it ascends to the plateau (the selected site of the new experiment station) which lies at the foot of Waialeala Valley and then takes a course west by north to the Baldwin Home. The length of this pipe line is 2½ miles. The 8-inch pipe is reduced to 6 inches a few hundred feet west of the fence forming the east boundary of the selected site.

President Pinkham states that the size of the pipe will be increased to 8 inches up to the Baldwin Home, which is the west boundary of the selected site. The present water supply is sufficient for all save irrigation purposes, both for present needs and also for the proposed leprosarium. The cost of this present water system complete, including the lines from the Baldwin Home to Kalaupapa, was \$20,000.

*Undeveloped water supply to be transferred for use of the proposed leprosarium.*—This consists of a spring located in Waikolo Valley, which will furnish fully as much water as the one now used as a source of supply for the settlement. It will be necessary to build a catch basin and erect a pipe line around the cliff and down to the selected site.

*Forestation.*—Limited to small trees for ornamental purposes, and certain groups of trees at the foot of the cliffs in Waialeala Valley which are used as needed for fuel.

*Fuel.*—There is sufficient fuel to supply the proposed leprosarium as well as the present settlement.

*Anchorage.*—One at Kalaupapa and one at Kalaekilola, the latter being the boat landing which will be transferred with the selected site.

*Boat landings.*—One at Kalaupapa and one at Kalaekilola. The latter landing can frequently be used when the sea is too rough to land at Kalaupapa.

*Transportation.*—Limited to teams. A mule pack outfit would be necessary in transferring freight from Kalaekilola to the selected site unless the present path were widened into a road.

*Wireless telegraph.*—The Island of Molokai is connected with Honolulu by wireless telegraph. A telephone line should be constructed from the proposed leprosarium to the wireless station.

*Transportation between the settlement and Honolulu.*—The Wilder Company's steamer *Likelike* makes a weekly trip to the leper settlement.

*Subsistence and other supplies.*—All supplies are forwarded from Honolulu.

*Sites selected for inspection.*—First, a tract of land a mile square situated in the district of Makanaoloo; second, a tract of land situated in the district of Kalawao.

The districts of Makanaoloo and Kalawao were carefully studied, the party making the exploration in vehicles, on horseback, and at times on foot, but it was not until both districts had been explored twice that the final decision was made, and it was made in favor of Kalawao for the following reasons:

*Isolation.*—Being to the extreme eastern part of the peninsula, where very few lepers live, the institution can be conducted with the least trouble to the leper settlement.

*Location.*—Bordering partly on the ocean proper and continuing under the lee of a lofty cliff, the selected site affords a remarkable variety in climate. The nearer the cliff is approached the greater the rainfall and the heat, and vice versa.

*Contour.*—Nearly every variety of contour is represented. Steep cliffs to the south, a valley to the east, a high hill to the south of the center of the site, beautiful rolling greenswards to the center proper, and a rocky coast to the north.

*Natural beauty.*—It would be impossible to find a more beautiful spot than the site selected. The view of the ocean here is made beautiful by the iridescence of the spray into which the breakers are dashed as they strike the boulders of lava rock along the shore. The cliffs tower bold and rugged into the clouds, and they promise many delights to any of the future students of leprosy who may be painters in water colors or who may be simply fond of natural scenery. The ever-changing color of these cliffs, the purples and grays, the cascades, and the cloud effects must be seen—they can not be described. The stretch of land or slope on which the proposed buildings will be placed is likewise very attractive.

*Drainage.*—The natural drainage of the selected site is absolutely perfect.

*Soil.*—Disintegrated lava rock on lava formation. Extremely fertile when watered.

*Water supply.*—To be obtained from the 8-inch pipe which crosses the selected site.

*General description of site of the Kalawao plat proper.*—North boundary, the ocean; east boundary, a line running from the sea in a southeasterly direction along the foot of the plateau at the mouth of Waialeala Valley to a point which shall be decided by the surveyor as one insuring the retaining of enough land by the Territory to preserve its taro, grazing, and firewood interests. West boundary, a line running in a southwesterly direction from the ocean along the east side of the Baldwin Home and Roman church to a point in Waialeala Valley to correspond to the terminus of the east boundary. North boundary, the line connecting the termini of the east and west boundaries.

*The boat landing.*—The boat landing at Kalaekiloa and all the land on the western exposure of the adjacent hill. This landing may be used when landing at Kalaupapa is impossible.

*The approach to the landing.*—The right of way over the path leading from the selected site at Kalawao around the foot of the cliff separating Waialeala Valley from Waikolo Valley and thence along the beach to the boat landing at Kalaekiloa.

*A spring in Waikolo Valley.*—This is reserved as a possible future water supply. The spring has elevation sufficient to give ample pressure at Kalawao and is believed to be capable of yielding 1,000,000 gallons of water daily. In developing this spring a catch basin, conducting pipe, and storage reservoir will of course be necessary.

*Right of way to the spring.*—At Colonel Hepburn's suggestion, the spring, the right of way thereto, and an area, 150 feet or more, surrounding the spring, were reserved.

*Additional acreage in Makauaula.*—In order that the act might be complied with, it was found necessary to reserve a large tract in Makauaula, which, when added to that already reserved in Kalawao, makes the total of all the tracts the equivalent of a mile square.

#### INSTRUCTIONS GIVEN TO THE SURVEYORS ON JUNE 10.

The following instructions were given to the surveyors by Governor Carter, after a conference with General Wyman:

*"Waialeala Valley.*—Survey the land east of the Baldwin Home extending from the sea along the stone wall approximately on line with the east boundary of the Baldwin Home to the foothills; thence, following the foothills, to a point near the head of the valley, where the woodlands commence; thence, following along the east side of table-land, leaving ample room for a right of way to the woodlands, to the sea, the right of way through this land and all buildings on same to be accurately located; also a contour survey of the makai or cleared portion of this section, as well as to get a few random elevations on the mauka or table-lands. Boundaries to be substantially marked.

*"Waikolu landing.*—Survey the portion of Waikolu Valley commencing at Leinaopapio Trig. Station; thence south along ridge of hill to a point which will intersect an extended line paralleling the beach and about 350 or 400 feet distant, the sea being the northern boundary of this piece, the stream the western. Boundaries to be substantially marked.

"*Spring*.—Locate the lower spring, to be pointed out by the assistant in charge of the settlement, and survey a piece surrounding same approximately 150 feet square.

"*Roads*.—Locate the road (Government) from the east line of Baldwin Home through the Waikolu landing reservation; also the trail up the Waikolu Valley as far as the spring reservation.

"*Balance*.—The total area of land to be turned over to the Federal Government must equal a square mile; the difference between the above pieces and the required area is to be made up by taking a rectangular piece north of the main road and including the Oliver Home. Boundaries to be substantially marked."

INSTRUCTIONS SENT TO GEORGE F. WRIGHT, JUNE 14, 1905 BY WIRELESS.

"Survey rectangle for balance area north of Oliver Home, including coast. Do not include Oliver Home."

*Acreage in the selected site*.—Acreage of the Kalawao tract, 112 acres; acreage of the Makaulua tract, 499 acres; acreage connected with the Kalaekiloia landing, 20 acres; acreage surrounding the spring in Waikolu Valley, 3 acres; total acreage, 634 acres.

*Adjustment of territorial and private claims*.—There are 26 houses on the selected site which are owned either by private persons or by the Territory of Hawaii. Ten of these houses are located on either side of the road immediately to the east of the Baldwin Home. Superintendent McVeigh appraises them at \$150 each, or \$1,500 for the ten. These houses could be moved off by means of heavy teams—at any rate, by the usual method of skids and rollers. One home is said to be worth \$300, but not adapted to removal in toto. The 15 remaining houses are said to be worth from \$100 to \$250. Some of them can be removed on skids. Improvements, such as trees, shrubs, clearing, and stone walls, made by private persons, are said to be worth \$500. It has been suggested that the apportionment of \$4,000 to the owners of these houses and the retention of the latter by the United States Government might be the easiest and best solution of the question of the proper adjustment of the claims which various persons have to these buildings and improvements.

*Progress of the transfer*.—Governor Carter has his surveyors at work preparing the maps and the descriptions of the various pieces of property by metes and bounds.

*Other incidents connected with the trip*.—The Baldwin Home was visited, and Brother Dutton consulted by General Wyman, Governor Carter, and Hon. W. O. Smith. Brother Dutton showed the party, which was later joined by Colonel Hepburn and others, through his admirably kept institution. The uniformed band of leper boys played several airs which called forth praise from everyone.

Afterwards the Bishop Home for leper girls was visited. There the same remarkable care for the afflicted ones was noticed. This work is done by the Sisters of Mercy. Everywhere, particularly in the institutions, leprosy in all of its forms was seen by the visitors.

The Hawaii board of health and Superintendent McVeigh came in for a large measure of praise for the fine condition in which everything was found to be. The lepers appeared to be satisfied and happy. At 5 o'clock the party returned to the steamer, which was soon on her way to Honolulu.

The conviction is rife that only success can attend an undertaking backed by so much professional enthusiasm. General Wyman left Honolulu for San Francisco on June 13, after a stay of about one week.

Respectfully,

L. E. COFER,

*Passed Assistant Surgeon,*

*Chief Quarantine Officer, Territory of Hawaii.*

The SURGEON-GENERAL.

#### NATIONAL CONTROL OF LEPROSY IN THE UNITED STATES.

During the last session of Congress an effort was made to secure legislation for the segregation of lepers in the United States and the establishment of a leper home. This effort was made as a sequence to an act of Congress approved March 2, 1899, providing for "the appointment of a commission of medical officers of the Marine-Hospital Service to investigate the origin and prevalence of leprosy

in the United States and report upon what legislation is necessary for the prevention of the spread of this disease." The commission was duly appointed by the Surgeon-General under direction of the Secretary of the Treasury, and their report was made under date of November 30, 1901, and published as Senate Document 269, Fifty-seventh Congress, first session. The report showed that there were at that time 278 cases of leprosy in the United States, giving the distribution of the cases, and that only 72 were isolated, and recommended the establishment of one or more institutions for the segregation and care of lepers by the National Government. The subject has been one of frequent communications from State health officers and others interested, and the bill as appended herein was prepared and submitted to Congress.

The bill was passed by the Senate and favorably reported by the House Committee on Interstate and Foreign Commerce, to which it had been referred, but on the last day of the session though the bill was brought up it failed to pass the House.

Following is a copy of the bill and a letter to the Secretary of the Treasury from the Surgeon-General in advocacy of its passage:

A BILL To provide a leprosarium for the segregation of lepers and to prevent the spread of leprosy in the United States.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That for the purpose of carrying out the provisions of this Act the Surgeon-General of the Public Health and Marine-Hospital Service of the United States, under the direction of the Secretary of the Treasury, is authorized to select a site, within a Territory or insular possession of the United States, suitable for the establishment of a leprosarium to be administered by the said Service; and the Secretary of War, the Secretary of the Navy, the Secretary of the Interior, or the Secretary of Agriculture is authorized to transfer to the Secretary of the Treasury any abandoned military naval, or other reservation suitable for the purpose, or as much thereof as may be necessary, with all buildings and improvements thereon, to be used for the purpose of said leprosarium.

SEC. 2. That the medical officer detailed or appointed in charge of said leprosarium shall, under regulations prepared by the Surgeon-General of the Public Health and Marine-Hospital Service, with the approval of the Secretary of the Treasury, receive into the leprosarium any leper presenting himself or herself for care or treatment, or any leper duly consigned to said leprosarium by a State or Territorial board of health or the health department of any State or Territory or the District of Columbia, with the approval of the governor of said State or Territory or the Commissioners of the District of Columbia. The Surgeon-General of the Public Health and Marine-Hospital Service is authorized, upon request from said authorities, to send for any leper within their respective jurisdictions, and to convey said leper to the national leprosarium for detention and treatment, and when the transportation of any leper to the leprosarium is undertaken for the protection of the public health the expense of such removal shall be paid from funds set aside for the maintenance of the institution: *Provided*, That no leper shall be brought from any Territory or possession without the continental boundaries of the United States: *And provided further*, That any leper consigned to the leprosarium by the aforesaid authorities of any State, Territory, or the District of Columbia may be returned to the jurisdiction of the latter upon their demand.

SEC. 3. That regulations shall be prepared by the Surgeon-General of the Public Health and Marine-Hospital Service, with the approval of the Secretary of the Treasury, for the government and administration of the leprosarium and for the treatment and detention of all persons who are inmates of said institution.

SEC. 4. That for the purposes of carrying out the provisions of this Act there is appropriated, from any money in the Treasury not otherwise appropriated, the sum of two hundred and fifty thousand dollars, or as much thereof as may

be necessary, for the preparation of the leprosarium, including the erection of buildings, five thousand dollars of which sum may be expended for perfecting title to such site, and fifty thousand dollars, or as much thereof as may be necessary, for the maintenance of the patients and for the pay and maintenance of necessary officers and employees until June thirtieth, nineteen hundred and six.

Sec. 5. That the Secretary of the Treasury be, and he is hereby, authorized to cause the erection upon such site of suitable and necessary buildings for the purposes of this Act at a cost not to exceed the sum herein appropriated for such purpose.

Sec. 6. That when any commissioned or noncommissioned officer of the Public Health and Marine-Hospital Service is detailed for duty at the leprosarium herein provided for he shall receive, in addition to the pay and allowances of his grade, one-half the pay of said grade and such allowances as may be provided for by the Surgeon-General of the Public Health and Marine-Hospital Service, with the approval of the Secretary of the Treasury.

LETTER FROM SURGEON-GENERAL TO SECRETARY ADVOCATING THE BILL.

TREASURY DEPARTMENT,  
BUREAU OF PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
Washington, January 10, 1905.

SIR: I have the honor to acknowledge receipt, by reference from the Department, of the communication of December 22, 1904, from the Committee on Interstate and Foreign Commerce, House of Representatives United States, inclosing copy of a bill (H. R. 16913), and asking that you furnish the committee with such suggestions as may be deemed proper touching the merits of the bill and its passage.

In reply I would present for your consideration that the subject of the establishment of a leprosarium for the segregation of lepers and to prevent the spread of leprosy in the United States is justified by the following circumstances:

Leprosy is a disease the records of which go back to the most ancient times, and such records show the fear in which it has always been held more or less by civilized peoples, and the apprehension which has always existed of the danger of its spread by contagion. In the Mosal writings and in the excellent sanitary teachings contained therein the regulations and suggestions for the segregation and isolation of lepers are more stringent than in the case of any other disease, and a review of these laws would seem to indicate that leprosy was regarded as practically incurable, and that once discovered in an individual death seems to be the only instrument for his or her relief. The cause of leprosy was then unknown, and except in this respect we are little further advanced in our knowledge of the disease than were the peoples and nations of the earth at the time of the birth of Christ.

The cause of the disease is now known—thanks to the investigations of Hansen and others—and is now recognized as being a specific organism—the *Bacillus lepræ*—but little is known even to-day of the method of its transmission from one individual to another, or of the channels through which it effects an entrance into the human economy. Unlike other diseases of microbial origin, experiments up to this time have failed to accomplish the growth of the *Bacillus lepræ* under artificial conditions, and therefore it has been impracticable to apply to the cure of the disease the well-recognized principles of serum therapy.

Under the provisions of an act of Congress approved March 2, 1899, a commission of medical officers of the Marine-Hospital Service (now Public Health and Marine-Hospital Service) was appointed by the Surgeon-General of the Service, with the approval of the Secretary of the Treasury, to investigate the origin and prevalence of leprosy in the United States, and under date of December 15, 1899, rendered a report which was duly transmitted to Congress and which was published as Senate Document No. 269, Fifty-seventh Congress, first session, and which report, with its recommendations, was referred to the Committee on Public Health and National Quarantine March 24, 1902, and ordered to be printed.

This bill is in accordance with the recommendations made by the commission under the terms of the law.

It is probable that all the cases of leprosy in the United States are not contained in this report, but it is interesting to note the wide dissemination of the disease. The report shows that there were at least 278 well authenticated

cases of the disease in the United States existing in 21 separate States and Territories: that in these cases there were represented 21 nationalities, and that of the number 145 were born in the United States and 120 were of foreign birth. These numbers do not include the numerous lepers in the Hawaiian Islands, but the observations were confined to the continental United States. Leper colonies existing in some States and Territories of the United States, notably Louisiana and Porto Rico, are under the control, more or less directly, of State and Territorial boards of health. In other States, as in Minnesota, arrangements are made for the care of lepers, without segregation, by disposing of them in rural districts, subject to the inspection and regulations made by the State board of health.

It is believed that it is impracticable for the States to establish leprosaria, or institutions for the segregation and care of lepers, and the opinion of various State health officers assembled in conference from time to time with the Surgeon-General of the Public Health and Marine-Hospital Service, as provided for by section 7 of an act approved July 1, 1902, is that the establishment of a national institution for the segregation and care of lepers is an absolute necessity.

It is impracticable for each State to maintain a separate leprosarium, as it would involve large expenditure for buildings and maintenance not apparently warranted on the part of the State by the small number of lepers each will have to care for. For example, I am credibly informed that the three lepers which have recently been found in the State of Massachusetts are now costing that State \$10,000 per annum, and the Bureau is frequently appealed to for taking care of single and isolated cases in communities which are at a loss to know how to dispose of the same. As a result, a great many cases of leprosy are hidden and the hiding is ignored by the authorities.

There can be no doubt that leprosy is a communicable disease. It is true that the contagion seems to require a considerable length of time; that it is slow in manifesting itself, and that many persons exposed to the contagion escape. On the contrary, it must be remembered that should the contagion take root and the disease develop, the person becomes afflicted with a disease practically incurable in the present state of knowledge and is condemned to a life of suffering, relievable only by death, and is an object shunned by his fellow-men and even by his relatives.

The effects of the disease are loathsome beyond description, and reference to the cuts which are contained in the Senate document above alluded to will show the terrible nature of the lesions and mutilations effected by the disease.

Another reason for the establishment of a leprosarium and of the segregation so far as possible of all lepers in the United States is the fact that one of the recognized terminations of leprosy is by an intercurrent infection of pulmonary tuberculosis, and the leper thus afflicted becomes not only dangerous from the point of view of the spread of his original ailment—leprosy—but is also an agent in the possible spread of tuberculosis. The leper sooner or later becomes incapable of self-support and is a public charge, and his care by a State board of health or State institution becomes a tax which is assumed by State authorities only with reluctance and under conditions far from perfect as to comfort, safety, and humanity.

It is believed that the time has arrived when the prevention of leprosy should be seriously considered, and in the interest of public health and humanity the individuals affected by this loathsome and practically incurable disease should have the benefit of treatment under ideal hygienic surroundings, good food, and scientific and conscientious care, of being afforded the same measure of relief as is extended to those unfortunate individuals afflicted with tuberculosis, in the care of whom sanitarium treatment has worked such wonderful results in the way of amelioration and cure.

The bill now before the committee has been carefully drawn. It does not contemplate the purchase of any land for the establishment of the leprosaria suggested, except as hereinafter stated. It is designed that some abandoned military or naval reservation, or some section of public land not open to entry, should be transferred by the Secretary of War, of the Navy, or of the Interior to the Treasury Department for the purpose named.

While it is confidently believed a Government reservation suitable for the leprosarium can be found, it is known that on a number of these reservations some small entries have been made by settlers, and as invariably they have selected the most favorable sites, so far as water and also wood are concerned, it may be necessary to purchase, at a small figure, one or two homestead entries



In order that the reservation itself may have the proper water facilities. The limit of this expenditure should be \$5,000, though in all probability it will not be more than \$3,000. It is recommended, therefore, that section 6 of the bill be amended accordingly, as indicated in the amended section herewith appended.

The bill further contemplates the reception at the leprosarium of any leper voluntarily presenting himself or herself or sent to the institution by proper State or Territorial health authorities, and further contemplates, through the instrumentality of the annual conference of State and Territorial health officers with the Public Health and Marine-Hospital Service, a uniformity of legislation and practice in all States and Territories to be taken to prevent the spread of leprosy. It is contemplated that when the site shall have been selected and the leprosarium gotten ready for the reception of its unfortunate inmates the Surgeon-General of the Public Health and Marine-Hospital Service shall prepare regulations at once sufficient and benign for the treatment and detention of all of the inmates of the establishment.

The appropriation carried by the bill, \$250,000, or so much thereof as may be necessary, is to meet the erection or repair and adaptation for the purpose intended of any buildings which may now exist upon the reservation to be chosen and for the necessary additional buildings, such as hospitals, quarters, laboratories, and buildings for administrative and executive purposes, as may be required. Should the amount requested be deemed excessive by your committee, I would invite your attention to the fact that the amount to be expended depends largely upon what buildings may be found upon the reservation as chosen and their availability for the purposes intended. It is very possible that the entire amount may not be required at once or at one time, it being the desire of the Bureau immediately upon the passage of the act to begin a systematic search for a reservation adapted for the purpose and to equip it at once for the reception of patients, which would largely relieve State boards of health of the care of such patients.

It is suggested, therefore, that if it is deemed inexpedient to appropriate the entire amount asked for at this session of the Congress the amount be limited to \$150,000, and with the first report of transactions of the leprosarium as established a request will be made for further appropriations as indicated above.

The bill contemplates the employment of medical officers of the Public Health and Marine-Hospital Service for the management and administration of the station, and it is perfectly possible and practicable, under the present regulations of this Service, to secure the services of any persons or individuals specially skilled in the management of the disease at rates of compensation which may be fixed and established by the Secretary of the Treasury. The provision that officers of the Public Health and Marine-Hospital Service when detailed for duty at this leprosarium shall receive the pay and allowances of their grade and one-half the pay of their grade in addition it is believed is reasonable and justified for the reason that such duty will be onerous, dangerous, and mentally and physically unpleasant from daily contact with individuals afflicted with leprosy, whose lesions and mutilations are not only unsightly, but often disgusting to the last degree, and whose care will require the most intimate medical and surgical attention.

Respectfully,

WALTER WYMAN,  
Surgeon-General.

The SECRETARY OF THE TREASURY.

#### COLLECTION AND IDENTIFICATION OF MOSQUITOES.

In accordance with directions contained in Department Circular No. 111, September 30, 1903, the Bureau has received numerous specimens of *Stegomyia fasciata* and other mosquitoes from officers of the Public Health and Marine-Hospital Service, State and local health officers, and others, both in the United States and in foreign countries. These specimens have been forwarded to Prof. L. O. Howard, consulting entomologist of the Public Health and Marine-Hospital Service, for identification, and the results made known to officers of the Public Health and Marine-Hospital Service and others interested.

## COOPERATION WITH STATE AND LOCAL BOARDS OF HEALTH.

In several instances questions on sanitation, sewage, water supplies, contamination of streams, establishment of hospitals for contagious diseases, and consultation as to diagnoses in disputed cases have been referred to the Bureau for settlement. This cooperation of the Public Health and Marine-Hospital Service with State Boards has been productive of much good, and has served to strengthen the good feeling existing between the State health authorities and that branch of the Government medical service which has to do with the health of the nation as a whole.

## DESTRUCTION OF MOSQUITOES IN PULLMAN CARS.

Acting Asst. Surg. H. J. Hamilton, at Laredo, Tex., reports as follows:

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
OFFICE OF MEDICAL OFFICER IN COMMAND,  
*Laredo, Tex., May 22, 1905.*

SIR: I have the honor to make the following statement regarding a few experiments made at Laredo, Tex., on destruction of mosquitoes existing in Pullman sleeping cars:

From August 2, 1903, to November 27, 1904, a combination of pyrethrum powder and formaldehyde gas was used in fumigating Pullmans arriving from Mexico. Within the above-mentioned period, during the month of February, 1904, mosquitoes were very scarce in Laredo, but Acting Asst. Surg. John Frick managed to breed out a few of the culex family at the office, and on two occasions he placed a cage with mosquitoes in a Pullman about to be fumigated. I was using at that time a Kuhn formaldehyde-gas generator and a pot of pyrethrum powder in each end of coach—3 pints of 95 per cent wood alcohol in each generator and 2½ pounds of pyrethrum powder in each pot. The cage was placed in center of car, that being farthest point from generators and pots, fumigation started, and car closed with only the usual precautions—no sealing of crevices, etc. After twelve hours' exposure mosquitoes were found dead. No other experiments were tried with the combination of pyrethrum powder and formaldehyde gas. Pots with pyrethrum powder and the formaldehyde generators were set working at the same time, and then car not opened for twelve hours.

From November 28, 1904, to March 28, 1905, formaldehyde gas only was used for fumigating Pullmans at this station. During the winter of 1904-5 Laredo was practically free from mosquitoes of all varieties, but a few must have been hidden away, because in March, 1905, they began to appear, first the culex family, but anopheles and the stegomyia following closely. The latter part of the month larvæ of stegomyia, culex, and anopheles were collected and mosquitoes bred therefrom in the office of the Service. The close quarantine season commencing April 1, and believing that the Bureau would again issue instructions to use pyrethrum powder in addition to formaldehyde in fumigating cars, I thought to find the effect of formaldehyde gas alone in the quantity then being used on Pullmans before this regulation would go into effect. So on March 28 I collected nine stegomyia, five culex, and two anopheles in one cage, which I placed in center of car, and the sleeper treated in the usual manner, viz: The double windows and all ventilators closed, towels or pillowcases being used to better close ventilators of ladies and gentlemen's saloons, all upper berths lowered and bedding therein exposed as much as possible, all seats pulled out, and closets of dirty linen opened and contents exposed, two Kuhn formaldehyde generators with 3 pints of 95 per cent wood alcohol in each started, and car closed but not sealed nor crevices calked only as above. This car was opened at the end of fourteen hours and the mosquitoes of all varieties were found dead. The regulation time at this station is for a car to remain closed at least twelve hours, or until they were ready to sweep and clean them, so that the sweepings could be immediately burned and so destroy all dormant mosquitoes, etc.

I was prepared to experiment also on cars left closed the minimum time, but was advised by Bureau telegram of March 28 that fumigation of Pullmans from Mexico was no longer necessary, therefore experiments ceased with last car fumigated, which was opened on March 29, 1905. I will further state that the Pullman sleeping cars running through this port contain 4,000 cubic feet of space, as near as could be estimated from several measurements. The cages used in these experiments were between 9 and 10 inches square, two sides of glass, other two sides of wire gauze, bottom and top of tin with a 5-inch circular hole in top; there was no water in cages. A faint odor of formaldehyde gas could be detected at lee end of car during fumigation, showing there was some escape of gas.

Respectfully,

To the SURGEON-GENERAL.

H. J. HAMILTON,  
*Acting Assistant Surgeon.*

#### SPOTTED FEVER.

On May 2, 1904, Dr. Ch. Wardell Stiles, chief of the division of zoology of the hygienic laboratory, was detailed to visit Missoula, Mont., to continue the investigation of this disease from a zoological point of view. In the Annual Report for 1904 the preliminary report of Doctor Stiles was published. The completed report forms the subject-matter of Hygienic Laboratory Bulletin No. 20, entitled "A Zoological Investigation into the Cause, Transmission, and Source of Rocky Mountain 'Spotted Fever.'"

At the request of the Hon. J. M. Dixon, member of Congress from Montana, and of the board of health of that State, Asst. Surg. Edward Francis was detailed to investigate the prevalence, methods of transmission, and spread of "spotted (tick) fever," which disease continues to make its appearance annually in the Bitter Root Valley of Montana.

Doctor Francis spent the month of May and a part of June, 1905, in Montana. The results of his observations will form the subject of a report to the Surgeon-General in the near future.

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#### SECOND GENERAL INTERNATIONAL SANITARY CONVENTION.

In accordance with the mode of procedure authorized by the Second International Conference of American States, held in the City of Mexico in 1901-2, the date of October 9, 1905, has been fixed for the assembling of the Second General International Sanitary Convention, which will meet in Washington, D. C.

The following official communications have been promulgated as necessary preliminaries:

TREASURY DEPARTMENT,  
*Washington, April 29, 1905.*

Mr. W. C. Fox,  
*Director of the Bureau of American Republics,*  
*Washington, D. C.*

DEAR SIR: I inclose herewith a call for the Second General International Sanitary Convention of the American Republics, summoned, by direction of the International Sanitary Bureau, to meet in Washington, D. C., on October 9, 1905, at 11 o'clock a. m.

This call is issued in accordance with the resolutions relating to international sanitary policy and sanitary conventions adopted by the Second International Conference of the American States, held in the City of Mexico, October 22, 1901, to January 22, 1902.

In accordance with paragraph 7 of said resolutions, I have to request that you will take such measures as you deem advisable to make announcement of this call.

Respectfully,

WALTER WYMAN,  
Surgeon-General,  
*Chairman International Sanitary Bureau.*

TREASURY DEPARTMENT.  
*Washington, April 29, 1905.*

THE SECOND GENERAL INTERNATIONAL SANITARY CONVENTION OF THE AMERICAN  
REPUBLICS.

By direction of the International Sanitary Bureau the Second General International Sanitary Convention of the American Republics will be held at the New Willard Hotel, Washington, D. C., on October 9, 1905, at 11 a. m. The programme for the meeting will be furnished in a short time, and announcements of any changes therein will appear from time to time in the Monthly Bulletin of the Bureau of the American Republics.

Respectfully,

WALTER WYMAN,  
*Chairman International Sanitary Bureau.*

In consequence of the foregoing the Bureau of the American Republics caused the following to be transmitted to the accredited representatives in the United States of the countries composing the International Union of America Republics:

MAY 1, 1905.

SIR: I have the honor to transmit herewith copy of a letter received from Surgeon-General Walter Wyman, chairman of the International Sanitary Bureau, forwarding a call for the Second General International Sanitary Convention of the American Republics to meet in Washington, D. C., on October 9, 1905, at 11 o'clock a. m.

I am, sir, your obedient servant,

WILLIAMS C. FOX, *Director.*

The programme submitted for the work of the convention, subject, however, to subsequent alteration by the International Sanitary Bureau, is as follows:

SECOND INTERNATIONAL SANITARY CONVENTION  
OF AMERICAN REPUBLICS,  
*Washington, D. C., October 9, 1905.*

SCIENTIFIC PROGRAMME.

1. Reports by a delegate from each Republic. These reports should include (a) reports on prevalence of diseases, with special reference to plague, yellow fever, and malaria, since January 1, 1904, being approximately the date of adjournment of the last convention; (b) a summary of all quarantine and sanitary laws enacted since the first convention; (c) special sanitary work in progress or in contemplation. These reports are to be rendered in behalf of each Republic, or each division of the subject may be committed to a delegate for presentation. A written report is requested for publication.

2. Plague: (a) Diagnosis; (b) prophylaxis and therapeutics; (c) maritime quarantine; (d) land quarantine; (e) local measures for the eradication of the disease.

3. The mosquito in its relation to yellow fever and malarial fevers. Prevention of the spread of yellow fever and malarial fever by the destruction and elimination of the mosquito.

4. Discussions on sanitation of cities, with special reference to the ventilation of habitations and disposal of household wastes.

THIRD ANNUAL CONFERENCE OF STATE AND TERRITORIAL HEALTH OFFICERS WITH THE UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.

A copy of the following letter was sent to the Secretary of each State and Territorial board of health:

TREASURY DEPARTMENT,  
Washington, March 31, 1905.

DEAR SIR: In accordance with the provisions of section 7 of an act approved July 1, 1902, to increase the efficiency and change the name of the United States Marine-Hospital Service, I have to inform you that the Third Annual Conference of State Boards of Health with the Public Health and Marine-Hospital Service will be held at the New Willard Hotel, Washington, D. C., on Monday, May 15, 1905, at 10 a. m. Your board will be entitled to representation in the said conference by one delegate.

It is requested that your board will submit a typewritten report of any State or municipal health legislation enacted during the past year which is of interest to the public health, and any other information of the occurrences of the past year in relation to public health, sanitation, or kindred subjects. This report will be for publication in the transactions and will not be read at the meeting.

It is proposed that the following subjects shall be discussed at this meeting: 1. The national control of leprosy. 2. The methods of the transmission of typhoid fever.

I would request that I be informed in advance of the name of the delegate who will represent your board.

Respectfully,

WALTER WYMAN,  
Surgeon-General.

SUMMARY OF PROCEEDINGS.

The third annual conference of State and Territorial health authorities with the Surgeon-General of the Public Health and Marine-Hospital Service was held at the New Willard Hotel, Washington, D. C., May 15, 1905, Surgeon-General Wyman presiding and Asst. Surg. Gen. H. D. Geddings acting as secretary of the conference. Twenty-two States and Territories were represented, as follows:

Dr. N. K. Foster, California; Dr. C. A. Lindsley, Connecticut; Dr. E. W. Cooper, Delaware; Dr. Wm. C. Woodward, District of Columbia; Dr. J. N. Hurty, Indiana; Dr. J. F. Kennedy, Iowa; Dr. Edmond Souchon, Louisiana; Dr. Charles D. Smith, Maine; Dr. John S. Fulton, Maryland; Dr. Charles Harrington, Massachusetts; Dr. Victor C. Vaughan, Michigan; Dr. H. M. Bracken, Minnesota; Dr. Henry Mitchell, New Jersey; Dr. Richard H. Lewis, North Carolina; Dr. H. H. Healey, North Dakota; Dr. C. O. Probst, Ohio; Dr. Benjamin Lee, Pennsylvania; Dr. T. Grange Simons, South Carolina; Dr. W. R. P. Thompson, Texas; Dr. H. D. Holton, Vermont; Dr. Paulus A. Irving, Virginia; Dr. Q. O. Sutherland, Wisconsin.

The chief matters discussed were the national control of leprosy, the methods of transmission of typhoid fever, and railway car sanitation. The Surgeon-General appointed Doctors Vaughan, Harrington, and Bracken a committee to frame resolutions relative to the national control of leprosy.

The transactions of the conference in full are published in a single volume similar to those of the first and second annual conferences.

The following resolutions were adopted by the conference:

Introduced by Doctor Souchon, of Louisiana:

Whereas the eradication of plague from California, through the united and harmonious efforts of the United States Public Health and Marine-Hospital Service, State and local boards of health, by means of rat extermination and extensive sanitary improvements throughout the affected area is an accomplished fact: Therefore, be it

*Resolved*, That this conference of the United States Public Health and Marine-Hospital Service with the State boards of health expresses its entire satisfaction with the methods used and the results obtained.

Introduced by Doctor Fulton, of Maryland:

Whereas the members of this conference, representing the boards of health of twenty-two States, have first-hand knowledge of the amount and character of the scientific work conducted by the Public Health and Marine-Hospital Service in the hygienic laboratory; and

Whereas this work is of distinct and increasing value to public health in the United States; and

Whereas the quarters now provided for the four divisions of the laboratory are inadequate, the need of additional buildings having been twice called to the attention of the Federal Congress and appropriations recommended by the Department of the Treasury: Therefore, be it

*Resolved*, That the necessity for increased laboratory facilities for the United States Public Health and Marine-Hospital Service be, and is hereby, urged upon the Congress of the United States

#### AID TO THE MANAGEMENT OF THE LOUISIANA PURCHASE EXPOSITION.

Upon the request of the medical director of the exposition, approved by the president of the same, Surg. James M. Gassaway, of the Service, was detailed as sanitary officer of the exposition grounds and buildings.

Surgeon Gassaway makes the following report of his work as sanitary officer:

##### PORT OF ST. LOUIS, MO.

In obedience to the designation of the Bureau, approved by the honorable the Secretary of the Treasury, as sanitary officer of the Louisiana Purchase Exposition, and as directed, I reported on June 9, 1904, to Dr. L. H. Laidley, medical director, and was by him at once assigned to the general care and oversight of all sanitary matters connected with the exposition.

I was directed to report daily (except Sunday) at the office assigned me in the Emergency Hospital on the exposition grounds as soon as possible after discharging the regular duty of my station at the United States Marine Hospital. I reported, officially, to Hon. David R. Francis, president of the exposition, on June 14, 1904, and was by him assigned to duties under the medical director. These duties consisted in the constant oversight of the many buildings; of the exhibits; amusement concessions; the personnel of the exhibited; the public and private conveniences; the restaurants and refreshment booths, with their food stuffs, etc., and the water, sewer, and ventilating systems, and the cleanliness of the grounds generally. During a large part of this time a horse and buggy were placed at my disposal, together with the services of a stenographer and typewriter. I was further assisted from time to time by one of the assistant physicians employed at the Exposition Emergency Hospital.

During my tour of duty epidemics occurred as follows: June 29, 1904, a case of beriberi was discovered by the official physician in one of the 114 Igorrotes then being exhibited. Other cases rapidly followed, and on July 17, 13 cases of beriberi were sent for treatment to the Mullanphy (civil) Hospital in this city. The number of cases has not been readily attainable. The mortality is believed to have been about 6 per cent. The cause of the epidemic is believed by Governor T. K. Hunt (M. D., Bellevue, 1889, who was in charge of the Igorrote village, and who had been governor of the tribe in the Philippines, accompanying them to this country) to be some impurity in the rice, which forms their staple food, and that the treatment should be largely hygienic, namely, substitution of meat

and fresh vegetables for the rice, gradually resuming the rice diet as improvement progressed. Frequent feasts of dogs, mainly supplied from the city pound, were made by the Igorrotes, the method of preparation of this food appearing to be to kill and immediately plunge the dog into boiling water, and after the animal had become sufficiently, to their idea, cooked, it was torn in pieces and devoured forthwith. The disease was, so far as I could ascertain, confined to the Igorrotes, with one or two cases in the Philippine constabulary (a Federal military police on duty immediately adjoining the Igorrote village). On completing investigations I recommended officially, as sanitary officer, that the Igorrote village be broken up, the houses or hovels occupied by the Igorrotes leveled, and, together with the grass, leaves, débris, chips, etc., on the grounds, promptly burned. This recommendation, however, was not accepted. In lieu of it the underpinning of several was removed, thus ventilating the lower portion, the hose turned on many floors, and a general cleaning up had. No further cases were known to have occurred after this action.

An epidemic of conjunctivitis occurred among the 237 Chinese congregated in one of the exhibits, the Chinese village, due, probably, to neglect of ordinary cleanliness and to the fact that they were not allowed sufficient air space in their quarters, and possibly to the electric lights, which were quite plentifully distributed among their bunks. This was promptly relieved by appropriate medication and by breaking up the village and scattering the inhabitants, which was done about the close of the fair. Several cases of smallpox were reported to have developed upon the grounds, but these were promptly removed to the municipal quarantine. Frequent examinations of the foodstuffs in the many restaurants and eating places were made and very little found amiss. The drinking water furnished at numerous booths at a small price was usually excellent. Countless nuisances in the shape of filthy and neglected water-closets, cellars, drains, and sewers were investigated, the parties at fault admonished, either in person or through the fair management, and in many instances these nuisances were promptly abated. Facilities for bathing some of the exhibitors and their employees were recommended, where deficient, and great improvement had.

The United States Army and United States Navy detachments at the exposition were supervised by their own medical officers, as were many of the visiting organizations encamped for greater or less time on the exposition grounds, thus relieving me of much care and responsibility in their several habitats. My work was much impeded and greatly increased in many instances by the fact that our Service was not called upon to take up this work until the exposition had been in progress for some thirty days. It was necessary, therefore, in order to have a full knowledge of the situation, to crowd at least six months' work of observation into time which should have been devoted entirely to inspection and consultation. It is undoubtedly necessary that the sanitary officer should have daily visited the site of the exposition for at least six months during the construction of the various buildings, sewers, waterways, etc., in order that he might be thoroughly conversant with the situation when his services were needed. As it was the buildings were almost without exception completed and occupied before his official connection began, and many laborious hours were expended in discovering the ins and outs of the drainage, the sleeping apartments, the entrances, action of the machinery, cellars, etc.

I desire to express my grateful appreciation of the constant and unvarying courtesy offered me by almost every officer of the exposition with whom I came in contact.

The exposition, as such, closed December 1, 1904.

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#### PORTO RICO ANÆMIA COMMISSION.

Reports of continuation of investigation, and reassignment of Passed Asst. Surg. W. W. King to work with the commission.

PORTO RICO ANÆMIA COMMISSION,  
*San Juan, P. R., December 6, 1904.*

SIR: I have the honor to report that the work of the commission for the study and treatment of anæmia in Porto Rico has about been completed. The com-

mission treated 5,500 cases of anæmia, all but 10 due to uncinariasis. The results of the 5,490 cases of uncinariasis were: Cured, 2,244; practically cured, 377; improved, 1,727; never returned after first treatment, 224; ceased to return, 283; unimproved, 86; died, 27; result not recorded, 522.

By "cured" is meant the absence of ova from the stools, and a hemoglobin percentage of 85 or over. "Practically cured" means a practical disappearance of symptoms, with a hemoglobin percentage of 70 to 84. About one-half of the deaths were due to other causes than uncinariasis.

Our observations convinced us of the correctness of the theory of Loos that infection occurs through the skin, as about 98 per cent of our patients gave a history of ground itch. We could not find substantiation of the claim, so generally made here, that the anæmia was due to starvation. Most of our patients who recovered did so while eating the same food and living in the same conditions.

We found that many cases recovered without anything else than the expulsion of the parasite, and that iron plays a comparative unimportant part in treatment. The prophylactic measures advised are (1) the dissemination of information regarding the disease, how to prevent, etc., and (2) the treatment of all at present infected.

The work of the commission has attracted considerable attention in Europe, the United States, Central and South America, as well as the neighboring West India Islands.

Respectfully,

The SURGEON-GENERAL.

W. W. KING,

*Passed Assistant Surgeon, Member of Commission.*

EXECUTIVE MANSION, PORTO RICO,

*San Juan, March 14, 1905.*

SIR: The legislative assembly of Porto Rico appropriated the sum of \$15,000 for the continuance of the anemia commission, which was appointed last year for the study and treatment of the disease known as uncinariasis in Porto Rico. The commission last year was composed of Dr. Bailey K. Ashford, captain and assistant surgeon United States Army; Dr. W. W. King, and Dr. Pedro Gutierrez, and excellent results were accomplished.

I have the honor to request that Doctor King be detailed for this work, the detail to last, if possible, until January 1, 1906. Doctor King's work has been most satisfactory, and his assistance in this matter in the coming year will prove of inestimable value to the insular government.

Respectfully,

BEEKMAN WINTHROP, *Governor.*

Gen. WALTER WYMAN,

*Surgeon-General, Public Health and  
Marine-Hospital Service.*

In accordance with the foregoing request, the Surgeon-General, under date of March 24, 1905, advised Governor Winthrop that "there is no objection on the part of the Bureau to the rendering of the said services by Doctor King, and he has this day been so informed."

PORTO RICO ANÆMIA COMMISSION.

AIBONITO, P. R., *June 30, 1905.*

SIR: I have the honor to make report of the work of the Porto Rico anæmia commission during the month of June, 1905.

The outdoor clinic was opened June 1, and from that date until June 30 microscopical examination was made of the feces of 1,672 persons who applied for treatment. Of these 1,598 were found to be infected with the uncinaria. The clinic is being managed in the same general manner as that of last year, patients are instructed to return each week, except those who come from distant points. These are told to return in two weeks and carry home enough medicine to last them that long. Very few fail to return, and those who do not come back are usually light cases from the town. They will be sought for later.

During the month these patients made 2,949 visits to the clinic, in almost all



cases their feces being reexamined. Betanaphthol is being prescribed instead of thymol, to observe the comparative efficiency of the two drugs used in like manner.

It is interesting to note that the cases showing no uncinaria were chiefly from the town or were persons who habitually use shoes and have never suffered ground itch (mazamorra), or had it years ago. On the other hand, those harboring the parasite almost invariably give history of having had this ground itch and are usually barefooted.

As compared to the same period of work last year, patients are applying for treatment in greater numbers, the increase being in the number of light cases. It is gratifying to reach such patients, as they form numerous foci of infection, and the fact that they will come for treatment shows the prophylactic importance of the work being done at present.

Most surprising have been the results that are being obtained from the advice given the patients in regard to the use of latrines. Many patients report that they have made their latrine, and others state at their first visit they had heard from their friends that each house should have a latrine and that they had already built one. The rural police are directed to advise the use of latrines, and they report to us that the people do construct them.

The district of Albonito contains 8,596 inhabitants, according to the census of 1899. Its barrios (subdistricts) have contributed the following number of patients to our clinic: Robles, 183; Asomante, 100; Cuyon, 90; Llano, 96; Algarrobo, 92; La Plata, 132; Caonillas, 82; Pasto, 82. The town proper of Albonito has 2,085 inhabitants, of whom 412 have attended our clinic. Thus about one-seventh of the inhabitants of this district have been put under treatment.

The remaining 329 have come from the surrounding districts, as follows: Barranquitas, 141; Coamo, 56; Barros, 40; Comerio, 31; Cidra, 19; Cayey, 8; Naranjito, 1; Morovis, 1. Some of these patients spend two or three days in walking in to the clinic.

The tent hospital was opened June 15, and until the end of the month 39 patients were admitted, representing 266 days of hospital attendance.

Twenty-one patients have been discharged during the month, cured of their uncinariasis. They were mostly light cases, though sometimes with heavy infection of this parasite. One death has occurred—a very bad case, with extreme weakness, having recently recovered from typhoid fever. She was given reduced doses of the purge and betanaphthol. Apparently not satisfied with the effect produced, some member of the family administered a drastic purgative composed of scammony, jalap, etc. Death followed in three hours from exhaustion.

Respectfully,

W. W. KING,  
*Passed Assistant Surgeon,  
Public Health and Marine-Hospital Service.*

The SURGEON-GENERAL.

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### INSPECTION OF MANUFACTURE OF VACCINE, SERUMS, ETC.

The inspection of vaccine and serums has been continued during the fiscal year just ended, and the results, so far as laboratory examinations are concerned, have been more than gratifying. In order to know what practical good has been accomplished by this inspection, and to invite the attention of health officers to any decrease in the incidence of sore arms after vaccination, a copy of the following circular letter has been sent through the State health officers to the local health officer in each county in the United States. The number of letters already received in reply to this circular is very large, and their contents show the expected benefits of the Government's supervision of these important manufactures. The replies to the circular will form the subject of a special report.

## CIRCULAR LETTER.

TREASURY DEPARTMENT,  
BUREAU OF PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
*Washington, June 2, 1905.*

DEAR SIR: I have to request that you will furnish the Bureau with any facts you may have in your possession concerning the relative incidence of sore arms accompanying vaccination during the past winter (1904-5) as compared with previous seasons, especially three, four, and five years ago.

It is known from the work done in the hygienic laboratory of this Service that a great improvement in the purity of vaccine virus has followed the administration of the act approved July 1, 1902, entitled "An act to regulate the sale of viruses, serums, toxins, and analogous products in the District of Columbia, to regulate interstate traffic in said articles, and for other purposes." It is now desired to know whether the practical results coincide with the laboratory data.

This will reach you through the State health officer, but it is requested that, with his consent, the information sought may be furnished in the inclosed franked envelope direct to the Surgeon-General of the Public Health and Marine-Hospital Service.

Respectfully,

A. H. GLENNAN,  
*Acting Surgeon-General,*

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HYGIENIC LABORATORY.

## Report of Passed Asst. Surg. M. J. Rosenau, director:

SIR: In compliance with paragraph 766 of the regulations, I have the honor to submit the following annual report, which contains a summary of the work of the hygienic laboratory for the fiscal year ending June 30, 1905:

The development of the laboratory during the fiscal year covered by this report marks an advance in its history. The laboratory not only occupied its new quarters, but established upon a working basis the four divisions provided for by the act of Congress approved July 1, 1902. The laboratory as now organized is prepared to investigate the public-health problems of interstate and national importance from the standpoints of pathology, bacteriology, zoology, pharmacology, and chemistry. Coordination in these various sciences is of the greatest aid in obtaining a deeper insight into the questions affecting the public health. The cooperation of scientists engaged in such special and allied lines of work under one roof is of the greatest mutual help.

The future of the laboratory in assisting the work of the Public Health and Marine-Hospital Service, as well as its prospects for advancing the sanitary sciences, is bright.

## THE BUILDING.

I feel it my duty, first of all, to again call attention to the fact that the present quarters are very much crowded; the usefulness of the laboratory is considerably handicapped on account of this lack of space. The building was constructed at a cost of \$35,000, as provided for in the appropriation of March 4, 1901. At that time the work of the laboratory was confined to pathology and bacteriology, and the building was not designed to accommodate the four divisions afterwards established by the act approved July 1, 1902.

The grounds present a sorry contrast to those of our neighbors, the Naval Museum of Hygiene and Naval Medical School. The two reservations combined constitute a public reservation of considerable extent and unusual prominence, situated as they are upon the summit of one of the most commanding hills in the District and in a section of the city which is rapidly developing. It would, therefore, seem to be a public duty to place our grounds in a slightly condition, corresponding to those of the naval reservation and in keeping with its position and dignity. During the past year a handsome statue of Benjamin Rush, one of the pioneer American physicians and a signer of the Declaration of Independence, in bronze and granite, was presented by the American Medical Association to the District of Columbia, and placed upon the grounds of the Naval Museum of Hygiene within a few hundred feet of our line. Magnificent terraced granite steps and approaches are now being built by the Navy Department as an entrance to their part of the reservation. These facts are given as a contrast to the rough appearance of our part of the reservation, which has not yet been cleared of weeds. The grounds should be terraced and artistically planted.

The following is given as an estimated cost of the improvements:

Additions to the laboratory building, including additional space for the division of zoology and accommodations for the divisions of pharmacology, and chemistry, providing another room for the library, increased, storage, etc -----	\$110,000
Animal house and stables, including carpenter and machine shop ----	25,000
Grading, terracing, and approaches-----	15,000
Total-----	150,000

#### LABORATORY COURSE FOR OFFICERS.

A syllabus of the course of instruction given student officers is contained in Bulletin No. 8. The course deals mainly with the subjects of pathology and bacteriology, having special reference to the sanitary sciences.

The course of instruction is not modeled after the usual post-graduate courses which physicians sometimes take for purposes of aid in clinical diagnosis. It is based upon the modern notion that specialists are required in the fight against epidemic diseases. Officers who have completed the full course are, therefore, thoroughly equipped to make an authoritative diagnosis of plague, cholera, malaria, anthrax, diphtheria, or any other of the known infectious processes, and are well drilled in the scientific facts useful in the practical work of stamping out epidemics.

The course of instruction also deals with such practical subjects as the causes and methods of the control of infectious diseases, principles and practice of quarantine, disinfection, the bacteriological and chemical examination of water from a public-health standpoint, ventilation, vital statistics, sanitary laws and regulations, and other problems affecting the public health.

During the fiscal year just ended four student officers were assigned to the laboratory for instructions, as follows:

Passed Asst. Surg. R. H. Von Ezdorf was under instruction on July 1, 1904, and detached August 31.

Passed Asst. Surg. H. A. Stansfield, under instruction, at the beginning of the fiscal year, was detached July 16.

Passed Asst. Surg. R. L. Wilson reported for instruction on August 29, 1904, and was detached February 27, 1905.

Asst. Surg. A. M. Stimson began the course on July 25, 1904, and completed it April 14, 1905.

The following officers, three in number, were assigned to the laboratory for duty:

Passed Asst. Surg. Joseph Goldberger, reported on November 8, 1904; assistant in the division of zoology.

Passed Asst. Surg. T. B. McClintic, reported on October 28, 1904; assistant in the division of pathology and bacteriology.

Passed Asst. Surg. Edward Francis was on duty as assistant in the division of pathology and bacteriology during the entire fiscal year.

Two other physicians, Dr. Alfonso Preciado, Panama, Panama, and Dr. N. E. Sellers, Mobile, Ala., were afforded the facilities of the laboratory.

In addition to the complete course of instructions intended to fit officers for special work in pathology and bacteriology, short courses are also given to meet the requirements of clinical diagnosis. Modified courses are occasionally given to those who come to the laboratory well equipped in laboratory methods upon the subjects of pathology and bacteriology, but desire to obtain the benefit of the more recent advances and the special technique which a laboratory of this character gradually acquires and uses. The courses are made as practical as possible, so as to be of use to officers in their official duty in connection with quarantine, hospital, and epidemic work.

The seminars held by the director biweekly for the purpose of reviewing current literature and discussing the progress of the work, mentioned in previous reports, have been continued.

#### LABORATORY BULLETINS.

The following bulletins were issued during the fiscal year:

*Bulletin No. 17.*—Illustrated key to the trematode parasites of man. By Ch. Wardell Stiles.

This bulletin is intended as a ready-reference key to the trematode parasites of man. It contains analytical keys to the genera and species in question,

specific and clinical diagnosis, tables of synonymy, references to the geographic and zoological distribution, and indications as to treatment.

*Bulletin No. 18.*—An account of the tapeworms of the genus *Hymenolepis* parasitic in man, including reports of several new cases of the dwarf tapeworm (*H. nana*) in the United States. By Brayton H. Ransom.

This bulletin contains a complete review of our present medical and the zoological knowledge of the three species of *Hymenolepis* reported for man, clinical histories of all cases reported in different parts of the world, and a complete bibliography of the subject.

*Bulletin No. 19.*—A method for inoculating animals with precise amounts. By M. J. Rosenau.

This bulletin described a new method for inoculating animals without the loss attendant upon using a piston syringe. The method is particularly applicable in work with toxins, antitoxins, and in researches in pharmacology and physiological chemistry, where it is desirable to study the action of strong poisons and substances which neutralize them.

*Bulletin No. 20.*—A zoological investigation into the cause, transmission, and source of Rocky Mountain "spotted fever." By Ch. Wardell Stiles.

This bulletin gives the results of the investigations conducted during the outbreak in the Bitter Root Valley, Montana, during 1904. After reporting negative results in reference to the parasite, the tick theory, and the gopher theory, advanced by Wilson and Chowning in 1902, the entire literature on the disease is collated, and the symptoms, as reported and as observed in 1902, are compared with those reported for piroplasmatic diseases in cattle, sheep, and dogs. The conclusion drawn is that the clinical aspect of "spotted fever" does not support the view that the malady is a piroplasmosis.

*Bulletin No. 21.*—The immunity unit for standardizing diphtheria antitoxin (based on Ehrlich's normal serum); official standard prepared under the act approved July 1, 1902. By M. J. Rosenau.

This bulletin describes the method by which the immunity unit for measuring the strength of diphtheria antitoxins is obtained and the principles involved. A detailed account of Ehrlich's side-chain theory of immunity is given, and the definition and methods of making the unit are discussed. The preparation and the standardization of the antitoxin are stated in detail. The practice of examining serums made by licensed manufacturers and bought upon the open market is explained and compared with the official methods used in Germany for testing diphtheria toxin and antitoxin.

*Bulletin No. 22.*—Chloride of zinc as a deodorant, antiseptic, and germicide. By T. B. McClintic.

In this bulletin Passed Assistant Surgeon McClintic gives the results of his careful work with chloride of zinc. As very little experimental work had previously been done with it as a deodorant, antiseptic, and germicide, its practical value along these lines was unsettled. Doctor McClintic found it to possess commendable properties as a deodorant, but to be inefficient as an antiseptic and germicide.

#### LECTURES TO THE NAVAL MEDICAL STUDENTS.

The friendly relations with the Naval Museum of Hygiene and Naval Medical School have been promoted to the mutual benefit of both. The chief of the division of zoology delivered a complete series of lectures upon animal parasites having a special relation to the diseases of man before the joint classes of students at the Naval Medical School and our own student officers. The director of the laboratory gave similar lectures upon diphtheria antitoxin, vaccine virus, disinfection, etc.

#### JAPANESE EXHIBIT PRESENTED TO THE SERVICE.

The director of the laboratory was authorized to receive from Prof. S. Kitasato the entire medical exhibit of the Japanese Government at the Louisiana Purchase Exposition. The exhibit was received in good order, and contained many valuable specimens, such as the poisonous snakes of Japan, their poisons and the curative sera made from them, various pharmacological and bacteriological apparatus, and illustrations of the vaccines and biological products made by the Imperial Serum Institute of Japan.

It is a pleasure to acknowledge the receipt of this valuable collection and to express these public thanks for the munificent gift.

## THE ANTITOXIN UNIT.

After long preliminary studies and preparation the American unit for standardizing diphtheria antitoxin, which has been referred to in previous reports, was finally issued to the licensed manufacturers and others especially interested in this work. The standard serum was issued on April 1, 1905, and bimonthly thereafter.

The manufacture of this standard serum is surrounded by many technical difficulties. In order to maintain it as a true standard without variation, the tests must be repeated with great frequency, and attention paid to the minutest details in order to guard against change or deterioration.

The object of this standard is to insure the strength of antidiphtheric serum sold in the United States by licensed manufacturers. This work is done in accordance with the act approved July 1, 1902, and is fully explained in Bulletin No. 21, entitled "The immunity unit for standardizing diphtheria antitoxin (based on Ehrlich's normal serum)," by the director of the laboratory. Once each month or oftener, as may be deemed necessary, the diphtheria antitoxin made by each licensed manufacturer is bought upon the open market and examined in the division of pathology and bacteriology of the hygienic laboratory for potency and purity. During the fiscal year just ended the results of these examinations showed that several serums were below the strength claimed for them. The facts were reported to the Surgeon-General at once, who took the proper measures to require the withdrawal from the market of all bottles containing the same laboratory number, and steps were taken to prevent a recurrence of the fault. No antitoxin showing serious contamination was found.

## VACCINE VIRUS.

Once a month the vaccine virus made by each one of the licensed manufacturers is purchased on the open market and examined in the laboratory for purity and potency. This work is done under the same law (July 1, 1902), above mentioned, for the control of diphtheria antitoxin.

The director and assistant director were ordered to reinspect all establishments engaged in the manufacture of vaccines and antitoxins. It is felt that the control of interstate traffic in toxins, antitoxins, vaccines, and analogous products is public-health work of high importance and far-reaching significance. As most of the work has fallen upon the hygienic laboratory, it has fully realized its share of this responsibility and also participates in the gratification due to improvements in these products since the operation of the law of July 1, 1902.

That our country is now supplied with cleaner and purer vaccine virus is shown by the laboratory examinations and corroborated by the results of actual experience. Physicians are almost unanimous in reporting better results, as compared with the sore arms so prevalent before the administration of the law. A separate article upon "the Government control of vaccine virus," giving the facts demonstrating the good effects of this work, appears elsewhere.

## EXAMINATION OF PATHOLOGICAL SPECIMENS.

In the report of the division of pathology and bacteriology it will be found that a number of pathological specimens have been examined for officers of the Service. The laboratory is entirely dependent upon the outside for such material, as it has no direct connections in the District of Columbia where such material may readily be obtained.

## EXAMINATION OF DRUGS AND CHEMICALS.

It is a pleasure to call particular attention to that part of the report of the chief of the division of pharmacology dealing with the examination of drugs and chemicals. It is not generally known that all of the drugs and chemicals used in the hospitals of the Service are examined as to their purity and potency in the division of pharmacology before they are issued by the purveying depot.

As the United States Pharmacopœia is the standard for such work, it has brought the laboratory into close touch with this standard of reference. I am creditably informed that in all other countries having a pharmacopœia the government plays an important rôle in its preparation. Our Government should also give the United States Pharmacopœia sympathetic support and encouragement, not only in helping the revision, but in increasing its authority.

## DISEASES DUE TO ANIMAL PARASITES.

I have the honor to call attention to the report of the chief of the division of zoology, in which he refers to the work upon hookworm disease. As predicted by Doctor Stiles, hookworm disease is very prevalent in this country. There is a large field in Florida and other portions of the southeastern parts of our country in which public-health work of a practical nature, similar to that carried on by the Porto Rican anæmia commission, may be done. I, therefore, have the honor to recommend field work in this line. Specimens received in the laboratory from Florida and the Southeast indicate the presence of animal parasites heretofore undescribed.

## CAR SANITATION.

Material advance has been made upon the subject of car sanitation during the past fiscal year. Pullman cars have been placed at the disposal of the director of the hygienic laboratory in the railroad yards. We have had the advantage of having these cars just as they came from their run, so that it was possible to determine the absolute and relative efficiency of the various methods of cleansing and disinfection.

The new method of generating formaldehyde gas proposed by the Maine board of health is being given a thorough study. The method consists of mixing formalin and permanganate of potash. The results obtained by this method have been compared with those obtained by evolving gas from a mixture of lime, calcium chloride, and formalin, and these two methods in turn compared with the older methods, which have long been in use. These tests have been paralleled by comparing the methods under exact conditions in a room containing just 2,000 feet in one of the buildings on this reservation. Many tests have been made and complete data as to the actual amount of gas evolved determined by chemical tests. The absolute and relative amounts of moisture, the temperature, wind, and other conditions have been noted. So that, as far as I know, this series of tests, which extends over almost the entire year and done under a great variety of climatic conditions, will furnish us exceedingly valuable data as to the practical uses and limitations of formaldehyde gas as a disinfectant.

## TUBERCULOSIS.

Tuberculosis has been studied in the hygienic laboratory for several years past, as will be seen by reference to these reports. During the past fiscal year studies upon the cultural characteristics of the *bacillus tuberculosis* have been continued. Experiments have been conducted to determine the best means of destroying these resisting organisms in sputum, with especial reference to the use of the disinfecting gases for public-health disinfection against this disease. These results will be presented for publication during the coming year. Studies upon the chemical poisons formed in and secreted by the cells of the tubercle bacilli are being investigated in the hope of finding prophylactic or curative substances.

## REPORT OF THE DIVISION OF PATHOLOGY AND BACTERIOLOGY.

This report of the division of pathology and bacteriology was compiled by Passed Asst. Surg. John F. Anderson, assistant director, hygienic laboratory.

## EXAMINATION OF ANTIDIPHTHERIC SERUM FROM LICENSED MANUFACTURERS.

At intervals during the year diphtheria antitoxin, prepared by the licensed manufacturers, has been bought on the open market for examination for purity and potency in the laboratory. Care is taken when this serum is bought that knowledge of the fact that it is to be tested for potency should not reach the manufacturer. Serums of various strength are always selected, a serum of the higher potency as well as the lowest. It is a pleasure to state that during the past year in the large number of different serums we have tested only three

lots were found to be below the strength claimed by the manufacturer. Especially interesting is the fact that this was in serum of below a claimed strength of 200 units per c. c. The facts in the case were promptly reported to the Surgeon-General for appropriate action. At the same time a recommendation was made to the Surgeon-General that manufacturers be requested to discontinue the practice of placing upon the market serum of a lower potency than 200 units per c. c., as it is very probable that a serum of a lower potency is not of the same therapeutic efficiency per unit as the higher potency serum (250-400 units per c. c.).

In addition to the tests for potency, a test for bacteriological contamination is also made and a test to determine if an excessive amount of preservative has been added to the serum.

Advantage has been taken of the numbers of animals which recover from the injection of diphtheria toxin to study the question of inherited immunity to this toxin in guinea pigs. Some interesting results have been obtained. This subject is of special interest to workers in diphtheria toxin, as it is probable that the recovered pigs are sometimes used for breeding purposes. Such being the case, if there is an inherited immunity to this toxin and the young of these pigs are used in diphtheria work, there would be more resistance than in the young of other animals, thus giving unreliable results.

#### A STANDARD FOR ANTITETANIC SERUM.

Work has recently been begun upon the preparation of a standard for antitetanic serum, and it is hoped that before the end of the ensuing fiscal year this standard will be ready for distribution to manufacturers and others desiring it.

#### EXPERIMENTS UPON THE EFFECT OF COLD UPON TETANUS TOXIN.

Work was done in the laboratory during the year upon the effects of cold upon the toxicity of tetanus toxin. It had been claimed that cold inhibited to a marked degree the effect of tetanus toxin in an inoculated animal. A number of mice were inoculated with a definite amount of tetanus toxin and were placed at varying degrees of temperature running from a little above freezing to that of body heat. No positive results were obtained, the animals exposed to a low temperature dying as quickly as those exposed to room temperature.

#### DISINFECTANTS AND GERMICIDES.

During the year many samples of disinfectants were received at the laboratory for examination and report. Many of these were for the various bureaus of the Treasury Department.

A great deal of work has been done on the various methods of liberating formaldehyde gas, which will be spoken of at some length under the appropriate head.

Passed Asst. Surg. T. B. McClintic has completed his work on the value of zinc chloride as a disinfectant and germicide, and his work was published as a laboratory bulletin.

The work upon formalin in solution has been completed, and only awaits the preparation of the manuscript. The results upon it show that the value of this as a germicide has been considerably overrated.

A series of experiments are being conducted by Doctors McClintic and Base with formaldehyde gas, report of which will be published later.

The different methods of evolving the gas are being experimented with and the percentages of gas evolved by the same under various conditions determined and compared. The subject is being exhaustively studied from a germicidal and chemical standpoint, particular attention being paid to the relation of the bacteriocidal power of the gas to moisture. The work has proceeded far enough to show that for germicidal purposes a certain quantity of moisture is absolutely essential, the gas in the dry state being practically harmless to microorganic life.

The presence of moisture is a question not of absolute but of relative humidity, which for disinfection purposes must not be below a certain percentage.

For germicidal efficiency a large percentage of formaldehyde gas is not necessary, provided the moisture is present in proper quantity, and as some methods for generating the gas give off more moisture than others the question of the method to be used is important when disinfecting with formaldehyde gas in dry climates.

Experiments with the use of formaldehyde gas in the disinfection of sleeping cars are also being conducted. This subject is being treated from the standpoint of economy, practicability, and efficiency.

#### EXAMINATION OF VACCINES.

The monthly examination of vaccine, which was inaugurated in the laboratory after the passage of the act approved July 1, 1902, has been continued. There has been noticed a steady decrease in the number of contaminating organisms in the vaccine virus.

In addition to the bacteriological examination of the vaccine virus the virus is tested for potency, arrangements having been made in the District with certain institutions for this purpose. It is found that a large percentage of the virus gives typical takes free from much evidence of bacterial contamination, as shown by the amount of induration, etc.

A paper was read before the American Public Health Association in Habana by the assistant director on the Federal control of vaccine virus, which included a table showing the bacterial contamination of vaccine virus before and after the passage of the act approved July 1, 1902. This table is found in an article by the director upon "The Government Control of Vaccine Virus."

#### YELLOW FEVER.

The large number of infected mosquitoes and diseased organs from cases of yellow fever, collected by working party No. 2 of the Yellow Fever Institute, were studied by Assistant Surgeon Francis, without, however, bringing to light any new facts in regard to the etiology of the disease. It is hoped that it may be found practicable to take full advantage of the great opportunities now existing in New Orleans for the further study of yellow fever, and that the cause of the disease may be found.

#### SPOTTED FEVER.

Assistant Surgeon Francis was ordered in April to proceed to Missoula, Mont., for the study of spotted fever. He had the opportunity of studying a number of cases and collected many specimens, which were brought back to the laboratory for further study, but was unable to throw further light upon the etiology of the disease.

#### EXAMINATION OF SPECIMENS FOR DIAGNOSIS.

During the past year a larger number of specimens were received at the laboratory for diagnosis than ever before. It is to be hoped that the custom of officers of the Service of sending specimens to the laboratory for examination and report will be greater than heretofore.

In this connection I think it important to add a few words in regard to the proper method of forwarding specimens to the laboratory for examination, as the correctness of the diagnosis often depends upon the condition in which the specimen is received at the laboratory. For general purposes all that is necessary is that the specimen, as soon as taken from the body, be placed directly into 70 per cent alcohol, or in 5 per cent formalin solution for one or two hours and then in 70 per cent alcohol and forwarded to the laboratory. A brief clinical history, with any important facts in regard to the general appearance, location, etc., of the growth, is also important and should be included in the letter of transmission. The pieces of tissue should be about 1 cubic centimeter.



The following specimens were examined during the fiscal year:

Appendices -----	3	Nephritis:	
Blood for—		Interstitial -----	6
Malaria test -----	13	Parenchymatous -----	5
Widal test -----	111	Plague -----	1
Carcinoma -----	12	Sarcoma:	
Cerebro-spinal meningitis -----	5	Round cell -----	3
Epithelioma -----	4	Spindle cell -----	3
Fibroma -----	4	Melano -----	2
Hodgkins disease -----	1	Alveolar -----	1
Hypernephroma -----	1	Ostia -----	1
Leprosy -----	7	Syncytium malignum -----	2
Liver:		Tubercle:	
Fatty -----	1	Liver -----	1
Cirrhosis -----	1	Intestine -----	2
Passive congestion -----	2	Spleen -----	3
Lymph glands, tubercle -----	1	Lungs -----	3
Malarial organs -----	17	Urine -----	74
Myoma -----	2	Water for colon bacillus -----	17
		Yellow-fever organs -----	5

#### REPORT OF THE DIVISION OF ZOOLOGY.

[By CH. WARDELL STILES, Chief of Division.]

SIR: In accordance with paragraph 767, service regulations, I have the honor to submit the following third annual report of the division of zoology for the fiscal year ending June 30, 1905:

##### DWARF TAPEWORM.

(*Hymenolepis nana*.)

The forecasts made regarding the dwarf tapeworm are being borne out by reports made by various physicians and by specimens sent in. New localities of its occurrence are becoming known, but from the nature of the method of diagnosis and the indefinite symptoms progress in connection with this parasite will naturally be more gradual than was the case with hookworm disease.

##### DETAIL TO SCIENTIFIC MEETINGS.

At the request of the Smithsonian Institution I was detailed to represent this Government at the sixth international zoological congress, held at Berne, Switzerland, in August, 1904. A report upon the congress has already been presented to the service.

##### THE INTERNATIONAL CODE OF ZOOLOGICAL NOMENCLATURE.

The final editorial work on the International Code of Zoological Nomenclature was completed at the Berne congress, and the code has been printed in English, French, and German. There are points in the code affecting the nomenclature used in medicine which may not be altogether clear to persons—as physicians, pathologists, etc.—not accustomed to the principles of the Linnæan nomenclature, and at the request of a number of American pathologists and zoologists a brief discussion of the questions involved has been prepared. This discussion is now in press as Bulletin 24 of the hygienic laboratory.

##### LECTURES AT THE NAVY MEDICAL SCHOOL.

Upon the request of Medical Director Marmion, president of the faculty of the Navy Medical School, the chief of this division has given two courses in medical zoology—one course of about thirty hours and one course of about ten hours—to the medical officers ordered to the school for special instruction.

## REPORT OF THE DIVISION OF PHARMACOLOGY.

[By REID HUNT, Chief of Division.]

SIR: In accordance with paragraph 767 of the regulations, I have the honor to submit the following report on the operations of the division of pharmacology for the fiscal year ending June 30, 1905:

## EXAMINATION OF DRUGS.

The first ten months of the fiscal year were devoted almost exclusively to the examination of drugs which had been submitted to the medical purveyor by various manufacturers. Between 400 and 500 of such samples were received by the laboratory. Of these 289 were examined, while, owing to the delay in securing assistance, the others were returned without examination. Of the 289 drugs examined 93 samples, or nearly 32 per cent, were found to be below the United States Pharmacopœia standard, or (in the case of drugs not official in the United States Pharmacopœia) below the standard of other pharmacopœias or those ordinarily required by chemists. In many cases the impurities were of a nature which could not be considered seriously objectionable or were present in almost negligible quantities. On the other hand, some samples of such important drugs as ether or chloroform were so far below standard as to be undoubtedly dangerous. In fact, a number of serious and even fatal cases of pneumonia were attributed by the physicians of a hospital in a neighboring city to the use of ether of the quality (and from the same manufacturer) of the samples examined in the laboratory. Some other drugs were so grossly impure or so far below the required strength as to be practically worthless. A sample of precipitated sulphur for example was received, which contained 55 per cent of calcium sulphate. A "10 per cent" iodoform gauze was found to contain less than 4 per cent of iodoform. In the great majority of cases, however, the impurities were of a much less serious nature, and indicated that sufficient care had not been exercised in manufacture. That the United States Pharmacopœia demands in these cases were not impracticable is shown by the fact that as a rule it was possible to obtain from local pharmacists drugs superior to those recommended for rejection.

The quality of the drugs submitted to the laboratory showed marked improvement during the year; thus of the first 100 samples examined 42 did not conform to the United States Pharmacopœia standard or were inferior to the drugs ordinarily sold by first-class pharmacists; of the second 100 samples 31 were below standard, and of the last 89 samples only 19 were objectionable. It should be added, however, that one of the last samples examined was almost useless; this was a tube of hypodermic tablets of apomorphine hydrochlorate. Fifteen minutes with constant shaking was necessary to bring one of these tablets into solution in water; good tablets, as is well known, dissolve almost instantly.

## BULLETIN ON THE REVISED PHARMACOPŒIA.

The importance of the changes in the Pharmacopœia is shown by the fact that 117 additional drugs have been admitted and 151 dismissed; the strength of 22 important drugs has been increased, that of 32 decreased, while standards of strength have been introduced or made more definite for 56 others. The official titles of 139 drugs have been changed.

## RESEARCH WORK.

Thus far there has been little opportunity for systematic research work. A number of problems have, however, been taken up, some of which promise to yield results of interest. Work on the pharmacological action of certain sulphur compounds has been continued with the hope of discovering efficient antidotes to carbolic acid, thymol, and similar substances. Results have also recently been obtained in experiments with the thyroid glands and the blood of thyroidectomized animals, which promise to throw some light upon the functions of these glands. Experiments on chronic alcohol poisoning are also yielding interesting results in that they show that alcohol causes certain profound derangements of metabolism which have hitherto been overlooked. A number of experiments have also been made upon the relation of carbohydrates

to intoxication with acetone, which may help to explain some of the phenomena of diabetes.

Dr. Daniel Base, working in collaboration with the division of pathology and bacteriology, has obtained very interesting and important results on the percentage of formaldehyde present in the air after using various forms of apparatus for generating this gas.

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#### REPORT OF THE DIVISION OF CHEMISTRY.

[By JOSEPH H. KASTLE, Chief of Division.]

SIR: In accordance with paragraph 767 of the regulations, I have the honor to submit the following report of the work of the division of chemistry for the fiscal year ending June 30, 1905:

#### ORGANIZATION.

The division of chemistry of the hygienic laboratory was organized on June 20, 1905, at which time the present chief of this division took the oath of office. Up to the present time the work of the division has consisted largely in the organization and equipment of the chemical laboratory. Work on the tables, hood, and other laboratory furniture is now well under way and the first supply of apparatus and chemicals has already been ordered from the dealers in such supplies, so that it is expected to have the laboratory in working order now in a short time.

#### CHEMICAL RESEARCH.

I regard it as the chief end and aim of the laboratory to carry out such chemical investigations as are likely to lead to results of value in the relation of health to disease. Already a slight beginning has been made. Since coming here I have been engaged in finishing some work on the stability of the oxidizing ferments, which was begun some time ago. In this connection a new reagent for the oxidizing ferments has been discovered, and certain relations established with respect to the occurrence of oxidizing ferments and toxic substances in the higher fungi, and, in association with the director of the laboratory, a beginning has been made in the bacteriological and chemical study of tuberculosis, in the hope of being able to confer on man and the higher animals an immunity to this disease.

In the near future I hope to undertake a comparative study of the antiseptic and germicidal power of a number of the more recently discovered substances in the hope of being able to throw further light on the relation of chemical composition and constitution to the toxicity of substances. Oxidation and reduction in the living organism will also be studied, and also the relation of the unorganized ferments to disease. Finally it is believed that, in spite of the vast amount of work that has already been done in this field, a further chemical study of the toxins offers an extremely fruitful source of inquiry. Attempts will therefore be made to isolate new toxins and to make a more thorough chemical examination of such as are already known in the hope of being able to throw light on their chemical constitution and their mode of action on the living organism.

The above report covers the transactions in the laboratory for the fiscal year.

Respectfully,

M. J. ROSEMAN,  
*Passed Assistant Surgeon, Director.*

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#### SANITATION OF RAILWAY COACHES AND PULLMAN CARS.

The subject of car sanitation continues to receive increasing attention, both from sanitarians and from transportation officials. The education of the traveling public in the necessity of observing hygi-

enic precautions for their own and others' benefit is the most important factor in securing improved conditions in the sanitary arrangement of railway coaches, Pullman cars, etc.

The Bureau sanitary board was convened in April, 1905, by order of the Surgeon-General, to consider some of the more important phases of car sanitation.

A copy of the Surgeon-General's order and a copy of the report of the board are given below.

TREASURY DEPARTMENT,  
*Washington, April 12, 1905.*

SIR: You are directed to convene a meeting of the Bureau sanitary board at the earliest possible time to consider the following questions in connection with car sanitation:

- (a) The bedding and bed clothing of sleeping cars.
- (b) The drinking utensils upon railway coaches, especially sleeping cars.
- (c) The toilet arrangements and closets of railway coaches, especially provision of a separate receptacle in the toilet room to be used for the purpose of tooth washing, mouth rinsing, etc.

The board is directed to consider these questions from a sanitary point of view and to submit recommendations looking to their betterment.

Additional questions in regard to the sanitation of passenger and sleeping coaches will be submitted in the near future to the board and will form the subject of a separate communication.

The board is directed to thoroughly canvass these problems and to submit a report with their recommendations at the earliest possible date.

Respectfully,

WALTER WYMAN,  
*Surgeon-General.*

Asst. Surg. Gen. A. H. GLENNAN,  
*Public Health and Marine-Hospital Service, Washington, D. C.*

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PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,  
*Washington, April 19, 1905.*

SIR: Obedient to your orders of April 12, several meetings of the sanitary board were held to discuss questions in connection with car sanitation. The board has the honor to submit the following recommendations looking to the betterment of the sanitary condition of the railway coach.

It is recommended that the blankets used in sleeping cars be covered with a fabric that may be removed and washed. It is believed that this may be accomplished satisfactorily by inclosing the blanket with a linen sheet large enough to fold under all its sides.

There is no doubt of the danger of communicating disease by the use of a common drinking cup. The board seriously questions whether it should be the duty of each traveler to carry his own cup, as he does his own tooth brush, etc. when the general public is alive to the danger from this source, it will demand separate cups as it now demands separate towels. The board has been informed that paraffine paper cups may be made very cheaply, at a cost of about one-tenth of a cent each, which may be nested together and occupy a small space. It is also understood that these cups may be supplied in slot machines. More detailed information upon this subject is being obtained by the recorder.

We urgently recommend the provision of separate receptacles in the toilet rooms for the purpose of tooth cleaning, mouth rinsing, etc. This may be satisfactorily accomplished by a separate sink, funnel shaped, with an appropriate sign indicating its use.

The board has carefully considered the sanitary condition of the water-closets in the railroad coach, and recommends that the railway companies be requested to consider improvements in several directions. For the present the unloading of the urinary and fecal discharges upon the track appears to be an unavoidable evil. The danger of this practice is, however, to be kept in mind. A practical method of disinfecting discharges was discussed, and the advisability of adding formalin in weak proportions to the water in the flush tank or the use of an automatic arrangement which would release a few drops of formalin into the hopper each time the lid is raised was carefully considered.

The board questions whether the administration of matters affecting the health of the occupants of the railway coach can succeed if the measures employed are a marked advance upon the personal habits of travelers. Success must sometimes wait upon the education of the people, and it is believed that the Pullman car or the day coach is not the best schoolroom in which to teach personal hygiene and the prevention of the communicable diseases.

The orders convening the board are herewith returned.

All of which is respectfully submitted.

Respectfully,

A. H. GLENNAN,  
*Chairman.*

W. J. PETTUS.  
GEORGE T. VAUGHAN,  
*Assistant Surgeon-General.*

H. D. GEDDINGS.  
M. J. ROSENAU,  
*Recorder.*

The SURGEON-GENERAL,  
*U. S. Public Health and Marine-Hospital Service,*  
*Washington, D. C.*

## REPORTS OF OFFICERS DETAILED TO REPRESENT THE SERVICE AT MEETINGS OF MEDICAL AND PUBLIC-HEALTH ASSOCIATIONS.

MEETING OF THE ASSOCIATION OF MILITARY SURGEONS, ST. LOUIS, MO.,  
OCTOBER 10-15, 1904.

Asst. Surg. Gen. Geo. Tuly Vaughan reports as follows:

In accordance with Bureau letter of September 7, 1904, detailing me to represent the Service at the meeting of the Association of Military Surgeons, I left Washington October 8 and reached St. Louis the next day.

The association was called to order October 10 by the president, Medical Director John C. Wise, U. S. Navy, and a reception was tendered the foreign delegates, at which Maj. J. E. Pilcher, U. S. Volunteers, presided. Addresses were delivered by Major Pilcher, Colonel Ryerson, of Canada, and President D. R. Francis, of the Louisiana Purchase Exposition.

October 11 the following papers were read: "Further researches into the causes which tend to bring about serious accidents to divers," by Col. Luigi Abbamondi, royal Italian navy; "The Medical Reserve Corps of the United States Army," by Maj. Azel Ames, U. S. Volunteers.

On October 12 the association listened to the following papers: "Observations on the Russo-Japanese war," by Maj. L. L. Seaman, U. S. Volunteers; "On the organization and conduct of the sanitary service of the first line in modern war," by Col. Pietro Imbriaco, royal Italian army; "The sanitary sergeant," by Brig. Gen. Otis H. Marion, M. V. M.; "The United States Naval Medical School," by Medical Director R. A. Marmion, read by Surg. C. F. Stokes, U. S. Navy; "The surgeon of the national guard," by Maj. R. W. Montellus, N. G. Pa.; "Some features of the immediate treatment and transport of the wounded in naval warfare," by Surg. Charles F. Stokes, U. S. Navy (discussed by Lieut. Col. Hoff, U. S. Army; Asst. Surg. Gen. G. T. Vaughan, U. S. P. H. and M. H. S.; Surgeon Beyer, U. S. Army; and Medical Director Wise, U. S. Navy), and "The apron stretcher" (description and demonstration by Surg. G. A. Lung, U. S. Navy, through Passed Assistant Surgeon Kennedy).

Major Seaman gave some results of his observations of the Japanese military hospitals. He commented on the freedom from intestinal disease of the Japanese soldiers, and attributed it largely to their simple diet of fish, fruit, and sake.

Surgeon Stokes demonstrated a first-aid package for dressing shell wounds, which seemed well adapted to its purpose; also a woven-wire stretcher and splint combined, for transporting injured, especially fractures of the lower extremity.

The following papers were read on October 13: "An improved method of standardizing the recruit," by Surg. H. G. Beyer, U. S. Navy (discussed by Inspector-General Coppinger, royal navy); "Practical hearing tests," by Maj. W. S. Bryant, U. S. Volunteers (discussed by Surgeon Stokes, U. S. Navy);

"The epidemic of pneumonia," by Surg. C. E. Banks, U. S. P. H. and M. H. S.; "The treatment of abdominal injuries with special reference to gunshot wounds of the liver," by Col. J. E. Summers, jr., Nebr. N. G.

On October 14 the first paper read was "Altitude and expansion," by Surg. P. M. Carrington, U. S. P. H. and M. H. S. This paper was discussed by Surgeon Matto, of Peru; Surgeon Beyer, U. S. Navy, and Surgeon-General Wyman, U. S. P. H. and M. H. S. Col. N. Senn read a paper entitled "The need and advantages of a permanent international congress of military surgeons," followed by a resolution that a committee be appointed, of which the incoming president should be chairman, for considering the question; adopted. Surg. C. E. Banks, U. S. P. H. and M. H. S., read a paper on "Fracture of the radial head," and Capt. James Brew, N. G. Tenn., on "Report of surgical cases—a case of Adams-Stokes disease." Maj. George H. Halberstadt read a paper on "A chest wound by Krag rifle at 50 yards," discussed by Surgeon Beyer, U. S. Navy, and Assistant Surgeon-General Vaughan, U. S. P. H. and M. H. S. Captain Stanton read a paper by Lieut. Col. Augustine Aguirre, of the Mexican army, on "An operation for the radical cure of varicocele," discussed by Colonel Allie, Mo. N. G., and Major Ames, U. S. Volunteers. Passed Asst. Surg. L. S. Pilcher read a paper on "Removal of bullets lodged in the spheno-maxillary fossa," discussed by Assistant Surgeon-General Vaughan and Major Halberstadt, N. G. Pa. The committee on nominations was appointed, consisting of one member from each of the national services and one from each State having a representative present. The committee nominated the following ticket: For president, Surg. Gen. Walter Wyman, U. S. P. H. and M. H. S.; for first vice-president, Major Briggs, N. G. N. Y.; for second vice-president, Surg. Gen. R. O'Reilly, U. S. Army; for third vice-president, Surg. Gen. J. F. Rixey, U. S. Navy; for treasurer, Maj. H. A. Arnold, N. G. Pa. After some discussion it was agreed to recommend Detroit as the place for the meeting in 1905.

October 15 the following papers were read: "A case of perforating gunshot wound of the stomach—operation, recovery," by Dr. C. B. Mittelstaedt, U. S. Army, discussed by Maj. C. P. Brown, from Washington State; and "Gunshot wounds of the ureter—two cases of uretero-vesical anastomosis," by Asst. Surg. Gen. George T. Vaughan, U. S. P. H. and M. H. S.

The nominees presented by the nominating committee were unanimously elected, and the association adjourned sine die.

#### REPORT OF SURG. JAMES M. GASSAWAY.

##### Surg. James M. Gassaway reports as follows:

The thirteenth annual meeting of the Association of Military Surgeons of the United States convened at the Louisiana Purchase Exposition, St. Louis, Mo., Monday, October 10, 1904, taking the form of an international congress of military surgeons, and continuing daily until noon of the five ensuing days, adjourning upon Saturday, October 15, 1904.

About 125 members and delegates were present.

A most cordial address of welcome was given by the Hon. (ex-Governor) David R. Francis, president of the Louisiana Purchase Exposition, and former Secretary of the Interior.

Eleven medical officers of this corps were quite constantly present during the meetings, and took lively interest therein. It is a noteworthy fact that of the 55 scientific papers offered for the discussion of the association, at least 10 of them were the work of officers of this corps. This meeting of the association was singularly harmonious, there being no exhibition of the acrimonious spirit which has more or less marred some of the previous ones.

The association adjourned to meet in September, 1905, at Detroit, Mich., after selecting Surg. Gen. Walter Wyman of this Service as president. General Wyman was also selected as the chairman of the universal commission to organize and arrange for an international congress of military surgeons.

An important action of the association was the adoption of a series of resolutions requesting Congress to reorganize the medical departments of the United States Army and Navy, part of which is as follows:

"Resolved, That the Association of Military Surgeons of the United States now assembled respectfully petitions Congress at its next session to reorganize the medical departments of the United States Army and Navy on a broad basis similar to that of the countries most advanced in military sanitation, giving to their officers equivalent rank, dignity, and power, and to their personnel ample numbers for the proper care of the ill and injured in military and naval service.

"Resolved, That this association recommends that the sale of beer be permitted at army post exchanges subject to such regulations as shall be determined by the General Staff and the Secretary of War.

"Resolved, That while appreciating the fact that military sanitation has finally been introduced into the general scheme of military instruction and has been made a requirement in the examination of second lieutenants for promotion, nevertheless this association believes that an adequate knowledge of 'the care of troops' is of such vital importance to our Army that it should be given adequate recognition in all our army and navy schools, and especially in the staff college and war colleges, and that the present courses at West Point and Annapolis should count in the requirements for graduation; it therefore respectfully petitions the President to make this resolution effective."

Other resolutions were adopted urging the providing of a field medical organization for the United States Army equal to the best of any army.

MEETING OF THE FOURTH PAN-AMERICAN MEDICAL CONGRESS, PANAMA,  
PANAMA, JANUARY 3-6, 1905.

Surg. H. R. Carter reports as follows:

The congress met on the evening of January 3. The opening address was delivered by the President of the Republic of Panama. He was followed by Mr. Wallace, the chief engineer of the Isthmian Canal Commission, in a most lucid and satisfactory address on the engineering problems of the canal, and by Colonel Gorgas, chief sanitary officer of the Isthmian Canal Commission, on the sanitary problems and the means proposed for their solution. Mr. Tracy Robinson gave then a historical sketch of Isthmian transit, and, finally, by Doctor Icaza, the president, and the secretary, Dr. J. E. Calvo, who declared the congress formally opened.

In spite of the small number present—the New York steamer and the *Athos* not having arrived—the opening was a marked success, and I have never seen an opening of any scientific convention of equal general interest. It was, of course, not specially a medical programme, but it specially concerned the Isthmus of Panama and the canal.

The next afternoon was the first scientific session of the congress, and a scientific paper of decided value was read by Doctor Frank, of Chicago, detailing some experimental work in liver surgery. The paper was absolutely original and very suggestive, marking the direction along which progress may be looked for.

Doctor Crile, of Cleveland, also presented a paper on "Physiology as a factor in surgical work," which presented a number of invaluable points. There was no paper on hygiene.

On the afternoon of the 5th the congress met again, and a general address on surgery was delivered by Doctor Senn, of Chicago, it being a paper on coxa vara, which was handled with the originality and ability characteristic of this gentleman.

No address on medicine was read, as Doctor Algodona, of Panama, who was to have read this paper, was absent.

The address on hygiene was a paper by Dr. Carlos Finlay, of Habana, read by Doctor Martinez, of the same city, the Cuban delegate. This was mainly an account of the recent yellow-fever cases near Santiago, Cuba, and some general observations on the etiology of that disease.

By resolution of the Congress it was agreed to debate this last address, the debate being opened by Doctor Purnell, delegate from Mississippi, who made an argument against the mosquito being the only method of conveyance of yellow fever.

Doctors Stern and Cook, of Panama, followed along the same lines, stating their disbelief in the mosquito being the only method of conveyance.

Doctor Carter, of the United States Public Health and Marine-Hospital Service, was called upon by the chair to continue the debate, and took the contrary ground. Doctor Thomas and Doctor Gorgas took part in the discussion; and again Doctor Carter, by resolution of the congress, Doctor Martinez closing. The discussion brought out the fact that the bulk of the Panaman physicians and some from the Southern States did not regard the mosquito theory as the only method of conveying yellow fever. Indeed, all who spoke, save Doctors Gorgas, Martinez, and Carter, while accepting the positive statement that yellow fever is conveyed by the *Stegomyia fasciata*, did not accept the negative state-

ment that it conveyed it in no other way. This was no small surprise, at least regarding the American physicians, to the writer.

The next business session was on the evening of the 6th. An address was made by Doctor Keen, of Philadelphia. Doctor Biffi, of Lima, read a paper—a most pregnant and instructive one, considering we are just installing our water supply—on the permeability of filters to the protozoa of water, in which he claimed that both the ordinary water amœba and flagellæ passed through a number of filters that are considered reliable, among others the Berkefeld, but failed to pass through the Chamberland Bougies. This question had been discussed among others in connection with the water supply at Ancon Hospital, and while the writer and others of the sanitary corps had been of the opinion that filtration of water would free it of bodies as large as a pathogenic amœba, yet, knowing the question had never been experimented, it was determined to boil the water and take no chances. The observations of Doctor Biffi show that this was a necessary precaution. The passage of bodies as large as those through close filters must be either by a process analogous to the diapedesis of the white corpuscles from the blood vessels, or one phase of their existence may be in bodies very much smaller than we are accustomed to recognize as amœba, which bodies, passing through, may be developed into a full-sized amœba. In this experiment contaminated water was placed in a filter which was surrounded by a sterile infusion of lettuce in which the amœba were found afterwards.

Doctor Ramos, delegate from Mexico, read a paper of Liceaga's, the director of public health of that country, on the plague at Mazatlan and its lessons. This the writer could only understand partly, so can not criticise. Both of the last papers were in Spanish.

The delegate of Guatemala presented a number of resolutions and extended an invitation to the congress to have its next session at Guatemala City. This was accepted by the congress, which will meet there three years from this time.

The delegates from the *Athos* attended only the last meeting, but by a resolution of the congress, all the papers submitted by these delegates which had been read and discussed aboard the *Athos*, were, with their discussions, made a part of the proceedings of the congress and ordered to be published in the transactions.

The social features of the proceedings were exceedingly pleasant and much more time was allowed to them than was allowed to their scientific labors. They consisted of a paseo, or outing, to the Savanas on the morning of the 4th, a banquet on the evening of the same day, a trip down the bay to Taboga Island on the morning of the 5th, and a ball on the same evening; January 6, a trip to Culebra Cut, under the auspices of Mr. Wallace, the chief engineer. This trip, I think, interested the delegates more than anything connected with their own scientific sessions would probably have done.

All the delegates from the Southern States, with the Cuban delegates, Doctor Echeverria, the delegate from Costa Rica (who has the sanitation of Port Limon in charge), and such other persons as were interested in yellow fever, were taken charge of by the writer and taken through Ancon Hospital, where we were fortunate (or unfortunate) enough to be able to show them a few cases of yellow fever and a number of suspects of that disease isolated in mosquito-proof cages in the general ward. They were shown the methods of disinfection practiced for yellow fever, i. e., fumigation to kill mosquitoes, as it was being practically done both at Ancon and in the city. They were given free access to all the orders, records, etc., and, I think, went away with a correct idea and a full knowledge of the condition of the city of Panama and the Zone as regards this disease.

An explanation of the quarantine system by exhibition of its records, its methods, and its plant was also made by the writer in some detail to the gentlemen from the Southern States interested in such matters.

Effort was made to answer not only all questions with absolute fullness and candor, but to show them everything which, were he in their place, he would wish to know of the sanitary situation as regards yellow fever and the maritime quarantine, and the writer believes this was done.

MEETING OF THE NATIONAL ASSOCIATION FOR THE STUDY AND PREVENTION OF TUBERCULOSIS, WASHINGTON, D. C., MAY 18 AND 19, 1905.

Surg. P. M. Carrington reports as follows:

Referring to Bureau order of May 9, 1905, detailing me to represent the Service at the meeting of the National Association for the Study and Preven-



tion of Tuberculosis, I have the honor to submit the following report of said meeting:

I reached Washington on the evening of Tuesday, May 16, and utilized the 17th in conference with yourself, Assistant Secretary Taylor, and various members of the association.

This meeting was remarkable because of the large number of prominent phthisiologists present, the great interest manifested in the several phases of the tuberculosis problem, and the valuable and highly interesting character of the papers submitted and the discussions had thereon. The addresses of the president of the association, Dr. Edward L. Trudeau, and those by Vice-Presidents Dr. William Osler and Dr. Herman M. Biggs were of great interest, and can not fail to have permanent beneficial effects. The address of Doctor Osler was further notable because it was practically his farewell address before leaving this country, and because of the splendid tribute which he paid to Doctor Trudeau, who may be called the "father of the sanatorium movement in this country."

Among the many vital and interesting questions discussed and acted upon by the association were—"The rôle of climate in the management of tuberculosis" and the question of "Clinical nomenclature." There were naturally strong advocates for climatic treatment and some, who unfortunately live in a very poor climate, who think the effects of climate to be nil; however, the association by its resolution gave adherence to the value of climate as one of the beneficial factors in the treatment of tuberculosis. Your representative participated in the discussion of this and some other questions which came before the association.

The question of nomenclature is one of extreme importance. The following is the report of the committee on nomenclature, which, I believe, was adopted exactly as I give it:

*Translation with some modifications of Turban's scheme for a method of comparative statistics for pulmonary tuberculosis.*

[From Tuberculosis, monthly publication of the Central International Bureau for the Prevention of Consumption September, 1904. Johann Ambrosius Barth, Leipzig. Suggested for use in the National Association, with the addition of the scheme offered by the committee.]

1. Extent of disease in the lungs.	I II III	For exact definition see below.
2. How long consumptive?	3 mos.	Period to date from the observation of the first clinical symptoms, e. g., stubborn coughing, hæmoptysis, pleurisy, loss of flesh, etc.
3. General condition of the patient.	A X	A=favorable. X=unfavorable.
4. Digestion.	B Y	B=unimpaired. Y=impaired.
5. Pulse.		The pulse is to be registered every morning and evening, the patient resting.
6. Temperature.	F f tn	F=Maxima for the day over 101° F. f=Maxima for the day from 99° F. to 101° F. tn=normal temperature (mouth).
7. Tubercle bacilli.	+ O	+ =tubercle bacilli present. O =tubercle bacilli absent.
8. Tuberculous complications.	Larynx	Name of organ suffering from tuberculosis.
9. Other complications.	-----	Name of the disease.
10. Result of treatment.		Vide classification of results of treatment proposed by committee on nomenclature.

*Definition of the extent of disease in lungs, according to Turban.*

I. Slight lesion extending at most to the volume of one lobe or two half lobes.

II. Slight lesion extending farther than I, but at most to the volume of two lobes; or severe lesion extending at most to the volume of one lobe.

III. All lesions which in extent of the parts affected exceed II.

By "slight lesion" we understand disseminated centers of disease which manifest themselves physically by slight dullness, by harsh, feeble, or broncho-vesicular breathing, and by râles.

By "severe lesion" we mean cases of consolidation and excavation such as betray themselves by marked dullness, by tympanitic sounds, by very feeble broncho-vesicular, bronchial, or amphoric breathing, by râles of various kinds.

Purely pleuritic dullness, unless marked, is to be left out of account; if it is serious, the pleurisy must be specially mentioned under the head of "tuberculous complications."

The volume of a single lobe is always regarded as equivalent to the volume of two half lobes, etc.

Incipient (favorable):

Slight initial lesion in the form of infiltration limited to the apex or a small part of one lobe.

No tuberculous complications. Slight or no constitutional symptoms (particularly including gastric or intestinal disturbances or rapid loss of weight).

Slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours, especially after rest.

Expectoration usually small in amount or absent.

Tubercle bacilli may be present or absent.

Moderately advanced:

No marked impairment of function either local or constitutional.

Localized consolidation moderate in extent, with little or no evidence of destruction of tissue.

Or disseminated fibroid deposits.

No serious complications.

Far advanced:

Marked impairment of function, local and constitutional.

Localized consolidation intense;

Or disseminated areas of softening;

Or serious complications.

Acute miliary tuberculosis.

By the committee:

*Proposed classification of cases and results of treatment in pulmonary tuberculosis, to be used in connection with Turban's scheme.*

*Progressive (unimproved).*—All essential symptoms and signs unabated or increased.

*Improved.*—Constitutional symptoms lessened or entirely absent; physical signs improved or unchanged; cough and expectoration with bacilli usually present.

*Arrested.*—Absence of all constitutional symptoms; expectoration and bacilli may or may not be present; physical signs stationary or retrogressive; the foregoing conditions to have existed for at least two months.<sup>a</sup>

*Apparently cured.*—All constitutional symptoms and expectoration with bacilli absent for a period of three months, the physical signs to be those of a healed lesion.

*Cured.*—All constitutional symptoms and expectoration with bacilli absent for a period of two years under ordinary conditions of life.

That portion of the report relating to the results of treatment is rather more liberal than the classification in use in this Service.

The association adjourned Friday evening, May 19, 1905.

<sup>a</sup> The length of time mentioned is, of course, somewhat arbitrary, but is intended to cover the cases which frequently occur, where the patients leave a sanatorium for various reasons, contrary to advice, after a stay of a few weeks, although all active symptoms may have ceased completely soon after entrance.

## AMERICAN PUBLIC HEALTH ASSOCIATION, HABANA.

Passed Assist. Surg. John F. Anderson reports as follows (through director hygienic laboratory):

In accordance with instructions contained in Bureau letter of December 8, 1904, detailing me to represent the Service at the laboratory section of the American Public Health Association, held in Habana, Cuba, January 9-13, I have the honor to transmit my report.

The laboratory section met at the General Wood Laboratory on January 9, under the chairmanship of Dr. V. A. Moore. The majority of the papers read before the section were devoted to water and sewage.

The committee on standard methods of water analysis rendered a long report on changes and improvements to be used in the bacteriological tests of water. Copies of this report were ordered to be printed for distribution to those interested in this work in this country and in Europe. The general tendency of the report was toward a greater simplification of the present methods of bacteriological examination of water.

Dr. E. O. Jordan read a paper upon the persistence of agglutinability of the typhoid bacillus in water, his conclusion being that the typhoid bacillus may be isolated without special difficulty after association with the bacillus coli from tap water and sewage for at least twelve to twenty days, and that some strains of the typhoid bacillus retain their agglutinating properties intact under these conditions.

Dr. Charles W. Dodge, of Rochester, N. Y., read a paper on the cause of formation of gas in cans of condensed milk. His conclusions were that it was not due to micro-organisms, but to electrolytic action of the metal of which the cans were composed and the acids generated by the growth of bacteria in the milk before it was condensed. He also reported a case of infection of a laboratory worker with the bacillus of Shiga. The worker broke a tube containing a culture of the bacillus of Shiga and accidentally carried some of the fluid to his eye. Twenty-four hours later typical symptoms of acute dysentery developed.

Dr. Joseph McFarland and Dr. J. Hamilton Small, of Philadelphia, contributed a paper on the technique of the indol test. This test differs in none of the details, so far as I was able to determine, from the method devised by Asst. Surg. S. B. Grubbs and Edward Francis of our Service and published in Laboratory Bulletin 7.

I read a paper entitled "Federal control of vaccine virus." This paper brought out quite a discussion. Dr. William H. Park, of New York, while not thoroughly agreeing upon the value to be placed upon the bacteriological examination of vaccine virus, stated, as showing that the Government exhibited neither fear nor partiality in granting licenses for the manufacture of vaccine virus, that the New York board of health was refused a license until they had made certain improvements in their plant.

Doctor La Breda, of Habana, read a paper and gave a demonstration of specimens showing the method of infection of mosquitoes by filaria.

The section adjourned that afternoon after electing Dr. William H. Park, of New York, chairman.

The general meeting of the association was held in the rooms of the Athenaeum Club under the presidency of Dr. Carlos Finlay.

About one hundred new members were elected.

The committee on disinfection and disinfectants, through its chairman, Prof. F. C. Robinson, of Brunswick, Me., gave a report of progress. The report was principally devoted to the disinfection of railways cars by formaldehyde, and a review of the important literature upon disinfectants which had appeared during the past year. They suggested a new method of using formaldehyde gas generated by the action of permanganate of potash upon liquid formalin, which seems to give promise of some value.

A number of papers were read upon the use of copper sulphate for the removal of algæ and bacteria from drinking water. The consensus of opinion seemed to be that this chemical had undoubtedly a marked effect upon the reduction of the number of most algæ found in reservoirs. Its use for the elimination of typhoid bacilli from water, however, is of less doubtful value. Some of the papers read showed that while the number of algæ was decreased the number of bacteria per cubic centimeter was actually increased by treatment with copper sulphate, this being probably due to the fact that the bacteria

were provided with a larger supply of dead organic matter from the algae, which had been killed by the action of the copper sulphate.

The president's address was largely a review of the recent sanitary organization in Cuba, and the health and sanitary condition of the island.

Doctor Lopez, of Mexico, detailed some studies upon the acclimatization of the *Stegomyia fasciata*. His experiments seemed to show that this mosquito could live and breed for at least three generations at an elevation of 7,300 feet above sea level.

The papers read before the meeting in Habana were not up to the usual standard, but the social features were more prominent than usual.

The association adjourned on the 13th, after having elected the following officers: President, Dr. F. F. Weshbrook, Minneapolis, Minn.; first vice-president, Dr. Juan Guiteras, Habana, Cuba; second vice-president, Dr. F. Lopez, Mexico City, Mexico; third vice-president, Dr. George MacDonald, Brandon, Manitoba; executive council, Dr. Marcus Haas, Memphis, Tenn., Dr. C. V. Chapin, Providence, R. I., and Dr. Wm. C. Chapman, Toledo, Ohio; secretary, Dr. Charles O. Probst, Columbus, Ohio, reelected; treasurer, Dr. Frank W. Wright, New Haven, Conn., reelected.

The next meeting will be held in Boston, Mass., in September, 1905.

#### MEETING OF NATIONAL MOSQUITO EXTERMINATION SOCIETY, NEW YORK, DECEMBER 15-16, 1904.

##### Passed Assistant Surgeon Rosenau reports as follows:

SIR: I have the honor to report that, in accordance with official instructions, I attended the second annual meeting of the National Mosquito Extermination Society held in New York on December 15 and 16, 1904.

The society effected a permanent organization by the adoption of a constitution and by-laws, and changed its name to the American Mosquito Extermination Society.

Officers were elected and an advisory board chosen.

The object of the society is educational. It expects, through its annual meetings and publications, to teach the average man that some varieties of mosquitoes are dangerous. It also hopes to induce legislators to appropriate funds for the draining of swamp lands and the correcting of public nuisances which breed or harbor mosquitoes.

I was directed by my orders to read a paper upon the subject, "Methods of extermination and dissection of mosquitoes for parasites," but when I saw that the audience consisted largely of laymen and laywomen, who could have but little interest in a subject encompassed with so many technical difficulties, I spoke briefly on the work of the National Government in the extermination of mosquitoes, pointing out the fact that the extermination of mosquitoes is one of the most important of modern sanitary problems and has taken rank with pure water, good drainage, wholesome food, and fresh air. The story of the Laredo epidemic was related, and the successful fight of the Public Health and Marine-Hospital Service against both mosquitoes and yellow fever in that city recounted. The lesson was drawn that by diligent and well-directed effort such a herculean task as ridding a town of mosquitoes may be accomplished in six weeks, as was done at Laredo.

The members of the society were assured that the Surgeon-General of the Public Health and Marine-Hospital Service is thoroughly in sympathy with the object of the association in gaining control of the mosquito problem in the United States and neighboring countries.

The meetings were poorly attended and there were some dissenting views from men who refused to admit that mosquitoes carry yellow fever and malaria. These two facts should not be taken as a discouragement to the few earnest workers constituting the society, but should rather stimulate them to the great need of educating the profession as well as the people in the practical results that modern science has achieved in combating diseases.

MEETING OF THE SIXTH INTERNATIONAL ZOOLOGICAL CONGRESS, BERNE,  
SWITZERLAND, AUGUST 14-19, 1904.

Dr. Ch. Wardell Stiles, chief of division of zoology, hygienic laboratory, reports as follows, through the director of the laboratory:

Referring to Bureau letter dated July 22, instructing me to represent the Service at the meeting of the Sixth International Zoological Congress, held at Berne, Switzerland, August 14-19, I have the honor to submit the following report:

There were 420 delegates and members of the congress from Argentina, Austria-Hungary, Belgium, Brazil, Chile, Denmark, Egypt, France, Germany, Great Britain, Holland, Hungary, Ireland, Japan, Luxemburg, Mexico, Monaco, Russia, Spain, Sweden, Switzerland, United States, and Uruguay.

At the formal opening, August 15, welcome addresses and replies were delivered by M. Gobat, conseiller d'Etat of the canton of Berne; Professor Studer, president of the congress, and Professor Perrier, of Paris, after which officers were elected.

It was next voted to accept the invitation of the American zoologists to hold the Seventh International Congress in Boston, Mass., in 1907, and later in the session Prof. Alexander Agassiz, of Harvard University, was elected president for the Boston Congress.

Several general addresses followed, of which the address by Prof. Raphael Blanchard, of Paris, on "Zoology and medicine" deserves especial mention. In this paper Blanchard gave an excellent review of the increasing importance of zoology to medicine from a practical point of view, referring, among other things, to the work of Grassi, Schaudinn, Gulart, Metschnikoff, and the zoological division of this Service.

In the later general sessions no papers were read which had any particular bearing upon medicine, but a number of important addresses on other phases of zoology were presented.

One matter of business came up in the general sessions which is of considerable importance, namely, a change in the general plan of membership of the International Commission on Zoological Nomenclature. According to the new plan this commission is composed of 15 members who are elected each to serve nine years, instead of indefinitely as heretofore. This plan will, it is believed, enable the commission to accomplish more work and will also enable the zoologists of the world to elect periodically as members any persons in whom they have special confidence in connection with nomenclatural views. In the election of new members this year two of the vacancies were filled by Americans. We thus have at present 5 of the 15 members. The commission as composed at present is as follows:

To retire in 1907: Dr. R. Horst (Leiden), Dr. F. A. Jentink (Leiden), President David Starr Jordan (Palo Alto, Cal.), Prof. F. E. Schulze (Berlin), and Dr. L. Stejneger (Washington).

To retire in 1910: Prof. R. Blanchard (Paris), Prof. L. Joubin (Paris), Dr. Ch. Wardell Stiles (Washington), Prof. Th. Studer (Berne), and Prof. R. R. Wright (Toronto).

To retire in 1913: M. Ph. Dautzenberg (Paris), Dr. W. Hoyle (Manchester), Prof. L. von Graff (Graz), Prof. F. C. von Maehrenthal (Berlin), and Prof. H. F. Osborn (New York).

Executive committee: Professor Blanchard, chairman of the commission, and Professor von Maehrenthal and Doctor Stiles, secretaries of the commission.

Of the numerous papers presented before the various sections of the congress, I would call especial attention to the following:

E. A. Göldi (Para), in a paper entitled "*Stegomyia fasciata*, the yellow-fever mosquito, and the present knowledge concerning the cause of this disease," presented a communication which excited some interest, despite the novelty of his ideas and the fact that his views concerning the etiology of the disease could not be accepted. First he gave a summary of results of methodical collection of those mosquitoes of the Amazon region which attack man and which, therefore, are of interest from a medical point of view. He then discussed the results of studies upon the blood sucking of the mosquitoes in reference to the inner economy of the female mosquito—as, for instance, in reference to the reproduction. It was proved experimentally that certain species were unable to oviposit unless they had sucked blood. He then reviewed the newer publications on yellow fever, especially that of the French commission

from the Pasteur Institute, which visited Rio de Janeiro. Laying special stress upon the negative results in reference to finding a parasite which can be accepted as the cause of the disease, he advanced the rather startling view that yellow fever is caused by a toxin found in the salivary secretion of *Stegomyia*.

It is worthy of note that Göldi did not support his view by overthrowing Schaudinn's recent experiments, in which it was shown that the salivary secretion of *Culex* is not toxic, and that he did not satisfactorily harmonize his theory with the recent experimental results on yellow fever.

Professor Vejdovsky (Prag) presented a paper entitled "Demonstration of the nucleus of bacteria," his discussion being based upon *Bacterium gammarum* found in *Gammarus Zschokkel*, and described by him in 1901 and 1904 in the *Centralblatt für Bakteriologie*, etc.

Prof. Arthur Looss (Cairo, Egypt) spoke of "The wandering of *Ancylostomum* and *Strongyloides* larvæ from the skin to the intestine." If mature larvæ of these two nematodes are placed on the hand, they bore through the skin, chiefly by way of the hair follicles. Reaching the corium they seek out the lymph, or blood vessels, and with the lymph and the blood they reach the heart, then the lungs. They now bore into the air passages, and finally wander through the trachea, larynx, and esophagus to the intestine. In young hosts this wandering is accomplished more rapidly than in older animals. Looss exhibited a large number of microscopic preparations which fully supported his claims. From a medical point of view this paper was the most valuable contribution presented to the congress.

Caullery and Mesnil (Paris) presented preparations of two parasites—*Pelmatosphera polycirri*, found in *Polycirrus hæmatodes*, and *Sphaeractinomyxon stoele*, from *Clibellis arenarius* and *Hemitubifex benedii*.

F. Mesnil (Paris) gave a demonstration of preparations of the protozoan of oriental ulcers. He called attention to the structures recently described by Wright (1903) and named *Helcosoma tropicum*. They are small ovoidal structures  $4\mu$  by  $3\mu$ , with two chromatine bodies, one small and one large. These chromatine bodies resemble very closely the nucleus and "centrosome" (blepharoplast) of *Trypanosoma*. Wright's parasite can not as yet be distinguished morphologically from *Piroplasma donovani* Laveran and Mesnil.

In this connection it may be mentioned that R. Blanchard (1904) has recently reviewed these two parasites. He leaves the question open as to whether they are identical, and gives the following synonym:

(1) In ulcers of tropical countries: *Leishmania furunculosa* (Firth, 1891) = *Sporozoa furunculosa*, Firth, 1891 = *Helcosoma tropicum*, Wright, 1903 = *Ovoplasma orientale* Martshivsky and Bogrov, 1904. Personally, I doubt whether the specific name *furunculosa* will stand.

(2) In nonmalarial splenomegaly: *Leishmania donovani* (Laveran and Mesnil, 1903) = *Piroplasma donovani* Laveran and Mesnil, 1903 = *Leishmania donovani* (Laveran and Mesnil, 1903) = Ross, 1903.

Edmond and Etienne Sergent (Paris) presented their experimental results, obtained in Algeria, upon the blood parasites of *Athene noctua*. For a full discussion of these parasites I would refer to the recent brilliant paper by Schaudinn (1904).

Following the adjournment of the general congress the executive committee of the International Commission on Zoological Nomenclature continued its sessions for more than a week. The international code was subjected to a thorough editorial revision in accordance with the instructions of the congress, and was placed in English, French, and German. The three texts will soon be published in France, and probably the German texts will be published independently in Germany, and the English text in this country.

#### FIFTY-SECOND ANNUAL MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, KANSAS CITY, MO., SEPTEMBER 5-10, 1904.

Dr. Reid Hunt, chief of the division of pharmacology, hygienic laboratory, reports, through the director of laboratory, as follows:

In compliance with Bureau order of September 2, 1904, detailing me to represent the Service at the meeting of the American Pharmaceutical Association, held in Kansas City, Mo., September 5 to 10, I have the honor to report that I attended all of the meetings of this association with the exception of those of one day, when I was prevented by illness.

Other representatives from the Government were Senior Pharmacists A. M. Roehrig and Charles Miller, of this Service; Pharmacist T. M. Phillips, of the Navy, and Mr. L. F. Kebler and Mr. W. O. Richtmann, of the Department of Agriculture. Much pleasure was expressed by members of the association at the interest manifested by the Departments of the Government and at the offers of the representatives to cooperate in the work of the association. Mr. Mittelbach, speaking for the committee on membership, paid a high tribute to Mr. Roehrig for his efforts in enrolling as members the pharmacists in the Government employ.

A very large number of papers were presented and the discussions covered problems in scientific and practical pharmacy, adulteration of drugs and chemicals, legislation relating to pharmacy and the sale of poisons, the teaching of pharmacy, etc. A plan was formulated to form a section on historical pharmacy. One of the objects of this section is the establishment of a national pharmaceutical museum, preferably at Washington.

The trustees of the Pharmacopœia made a report on the revision of this work. They stated that owing to the vast amount of difficult work involved in the revision it will be impossible to issue the work before the beginning of 1905. Provision was made for the appointment by the president of the Pharmaceutical Association of a committee of ten to be ready to assist the committee on revision.

Doctor Base read a paper on the drugs which he had examined in the hygienic laboratory during the summer. He called attention to the fact that in general there is more difficulty in obtaining drugs free from impurities incidental to manufacture than those free from actual adulteration. He also mentioned instances where the directions in the Pharmacopœia for performing the tests were a little obscure and the requirements as to purity too exacting. In discussing Doctor Base's paper I spoke of the policy of our Service to examine all drugs used by it and to require them to correspond to the United States Pharmacopœia standards, stating that we hoped in this way not only to secure the best drugs obtainable for our patients, but also to help uphold the authority of the Pharmacopœia.

A number of points in connection with legislation, both State and national, were discussed. Mr. Mason, chairman of the section on education and legislation, said that the past year had been an eventful one for pharmacy, in that a movement begun thirty years ago to secure the enactment of a pharmacy law in every State and Territory of the Union was brought to its culmination by the enactment of such a law for Indian Territory.

Mr. Henry, of Washington, reported for the committee on national legislation. He stated that Congress had done nothing with the bill for the reduction of the tax on alcohol. He reported the present status of the Mann patent bill and the McCumber pure food and drug bill, and called attention to the bill pending in Congress relating to the sale of drugs in the District of Columbia.

The Mann patent bill was indorsed by the association, although the chairman of the section on practical pharmacy had pointed out, in his annual address, certain features of the measure which he considered to be of questionable value. The committee on the national bureau of medicines and foods was discharged from further consideration of the subject on the recommendation of the council.

Prof. J. H. Beal, president of Selo College, was elected president of the association for next year, and Atlantic City was chosen as the place for meeting.

#### REPORT OF PHARMACIST CHARLES MILLER.

Pharmacist Charles Miller reports, through acting assistant surgeon in charge, as follows:

In pursuance of Bureau orders of August 16, 1904, detailing me to represent the Service at the Fifty-second Annual Meeting of the American Pharmaceutical Association, in Kansas City, Mo., September 5 to 10, I attended the meetings as directed, and was present at all the general sessions.

The meeting was called to order September 5, with over 300 delegates present, representing many State pharmaceutical associations, colleges of pharmacy, State boards of pharmacy, etc., besides representatives from different Departments of the United States Government services.

After addresses of welcome by Mayor Neff, of Kansas City, and others, President Lewis C. Hopp, of Cleveland, Ohio, delivered his annual address.

During the closing session my colleague, Pharmacist A. M. Roelhrig, addressed the meeting, alluding to the cooperation of the Public Health and Marine-Hospital Service in efforts to establish an antitoxin unit.

Dr. Reid Hunt, the pharmacologist of the Service, also delivered a short address, in which he referred to the work done by this new division in the Bureau.

The session voted to approve the Mann bill. It was also agreed to send a set of the proceedings to the United States Public Health and Marine-Hospital Service.

Prof. James H. Beal, of Selo, Ohio, was elected president of the association for the ensuing year.

The association adjourned to meet at Atlantic City, N. J., on the first Monday of September, 1905.

## INSANITARY DWELLINGS AND THE REHOUSING PROBLEM IN FOREIGN CITIES.

In view of the importance which these problems are assuming in various cities of the United States, and the importance of the problem from a public health point of view, it was deemed advisable to profit as far as possible by the experience of foreign cities, in many of which the varied questions involved have been under consideration for a number of years.

Through the Department of State the aid of United States consular officers was invoked, and the following circular requesting information was issued by that Department.

In response much information of value and of a varied character has been furnished the Bureau, and the reports and documents transmitted are being reviewed and abstracted in a shape for future publication.

TREASURY DEPARTMENT, *November 19, 1903.*

SIR: I have to request that, if practicable, a letter of inquiry be addressed to the United States consular officers in the following-named cities directing them to obtain and forward, for the use of the Public Health and Marine-Hospital Service, the laws or regulations requiring the vacation of insanitary dwellings and the laws or regulations requiring the demolition of such buildings; also to obtain and forward information concerning what provision, if any, is made in the various cities for reimbursing either the tenant for vacating or the owner for the demolition of the houses.

The cities from which this information is desired are as follows:

London, Liverpool; Manchester, Birmingham, and Leeds, England; Glasgow and Edinburgh, Scotland; Belfast and Dublin, Ireland; Paris, Marseille, and Lyon, France; Berlin, Hamburg, Munich, and Leipzig, Germany; Vienna and Budapest, Austria-Hungary; Amsterdam and Rotterdam, Holland; Madrid and Barcelona, Spain; Lisbon, Portugal; Naples, Rome, and Milan, Italy; Copenhagen, Denmark; Stockholm, Sweden; Christiania, Norway; St. Petersburg, Moscow, Warsaw, and Odessa, Russia; Constantinople, Turkey; Bucharest, Roumania; Rio de Janeiro, Brazil; Buenos Ayres, Argentina; Montevideo, Uruguay; Calcutta, Bombay, and Madras, India; Melbourne and Sydney, Australia; and Montreal and Toronto, Canada.

Respectfully,

L. M. SHAW, *Secretary.*

The honorable the SECRETARY OF STATE.

[Circular.]

INSANITARY DWELLINGS.

DEPARTMENT OF STATE,  
*Washington, November 30, 1903.*

*To certain consular officers of the United States:*

GENTLEMEN: At the request of the Treasury Department in a letter of November 19, 1903, you will please obtain and forward for the use of the Public Health and Marine-Hospital Service the laws or regulations of the cities in which you



are respectively located requiring the vacation of insanitary dwellings and the laws or regulations requiring the demolition of such buildings.

You will also report what provision, if any, is made for reimbursing either the tenant for vacating or the owner for the demolition of the houses.

I am, gentlemen, your obedient servant,

HERBERT H. D. PEIRCE,

*Third Assistant Secretary.*

The consular officers stationed in the cities mentioned, with one or two exceptions, have complied with the above request, and a review of the literature has been made. A synopsis of the rules and regulations of various countries governing insanitary dwellings will form the subject of a future report by the Bureau.

The foregoing contains the report of the transactions of the division for the fiscal year.

Respectfully,

H. D. GEDDINGS,

*Assistant Surgeon-General.*

The SURGEON-GENERAL.



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## **MISCELLANEOUS DIVISION.**

**(INCLUDING CONTRIBUTED ARTICLES AND NECROPSY REPORTS.)**

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## REPORT OF THE MISCELLANEOUS DIVISION.

JOHN W. TRASK,

*Assistant Surgeon, Public Health and Marine-Hospital Service, in charge.*

SIR: I have the honor to submit herewith the following report upon the work of the miscellaneous division for the fiscal year ended June 30, 1905:

The division was in charge of Asst. Surg. A. J. McLaughlin for that part of the year ending March 24, 1905, of Asst. Surg. Gen. H. D. Geddings from March 24 to April 22, 1905, at which latter date the present incumbent took up the work.

The work of the division has consisted of the reading of the Congressional Record and press clippings; the reading of medical journals; the proper distribution of all journals, magazines, and printed reports of societies, hospitals, State and municipal boards of health, and of the various branches of the Government; the duties of Service librarian; the examining of and acting upon by direction of the Surgeon-General various papers and claims referred to this Bureau by the Life-Saving Service; the custody and supervision of the mailing of all Service publications; the custody of the telegraphic code book; the editing of the annual report; the preparing for publication in the Annual Report of the Surgeon-General of the necropsy reports and tabulation of the surgical operations performed in the various marine hospitals, and attention to various matters of a miscellaneous nature which could not properly be referred to other divisions.

The Bureau has received 11 weekly, 1 semimonthly, 28 monthly, and 1 quarterly medical journals, all of which have been read and articles marked upon matters affecting the Service, upon the communicable diseases, and upon matters relating to hygiene and the public health. The journals thus marked were sent to the Surgeon-General and then around the Bureau to the various officers. Books intended for the Service library were added thereto and, when they were complimentary copies, were duly acknowledged.

Five hundred and twenty-nine papers referred to the Surgeon-General by the General Superintendent of the Life-Saving Service were acted on by direction of the Surgeon-General. These papers called for an expression of opinion upon medical evidence of disability submitted in claims for benefits under the act of May 4, 1882, and of the physical fitness of candidates for enlistment or reenlistment.

### PRINTING OF BUREAU PUBLICATIONS.

During the year the following joint resolution was enacted by Congress:

[PUBLIC RESOLUTION—No. 20.]

JOINT RESOLUTION Providing for the publication of the annual reports and bulletins of the hygienic laboratory and of the yellow fever institute of the Public Health and Marine-Hospital Service.

*Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That there shall be printed each year the bulle-*

tins of the hygienic laboratory, not exceeding ten in number in any one year, and of the yellow fever institute of the Public Health and Marine-Hospital Service of the United States, not exceeding five in number in any one year, in such editions, not exceeding five thousand copies in any one year, as the interests of the Government and the public may require, subject to the discretion of the Secretary of the Treasury.

SEC. 2. That there shall be printed each year four thousand copies of the annual report of the Surgeon-General of the Public Health and Marine-Hospital Service, bound in cloth, to be distributed by the Surgeon-General.

Approved, February 24, 1905.

The present weekly edition of the Public Health Reports is 3,500, of which 600 are kept for binding and 2,900 are used for mailing. The present mailing list consists of 2,362 names, many of which receive the report in duplicate. In this way 2,800 of the reports are used, and 100 are kept on file for reference and to meet future miscellaneous requests. The demand for these reports is continually on the increase; and especially is this so when any disease is epidemic or threatens to be so, the reports at such times being requested by many not on the mailing list.

The demand for the bulletins of the Hygienic Laboratory is also on the increase. The regular mailing list contains 592 names. These consist largely of physicians, scientific men in general, and libraries. The number of requests by those not on the mailing list is very great. It varies, depending upon the nature of the bulletin and the class of people especially interested in it.

The mailing list for the bulletins of the Yellow Fever Institute has 533 names. There are 1,127 names on the mailing list for the annual reports. These consist of medical colleges, medical journals, State boards of health, medical libraries, public libraries, the stations of the Service, the officers of the Service, the House Committee on Immigration and Naturalization, the Senate Committee on Immigration, and others.

During the last six months of the year, 62,500 copies of the Public Health Reports and 15,196 copies of bulletins and miscellaneous reprints and pamphlets have been mailed. There is no record of those sent out during the first six months, but the number is estimated to have been nearly as large.

The table of surgical operations performed during the year at the various hospitals of the Service and compiled from the annual reports of the surgical operations is herewith submitted.

Following are articles contributed by officers of the Service for publication in the annual report, and the necropsy reports of those dying at the various stations of the Service during the year.

Respectfully,

JOHN TRASK,  
*Assistant Surgeon.*

The SURGEON-GENERAL.

## CONTRIBUTED ARTICLES.

### YELLOW FEVER—ITS ORIGIN AND PREVENTION.<sup>a</sup>

By Surgeon-General WYMAN.

Throughout the eighteenth and nineteenth centuries yellow fever has been the scourge of a large part of the Western Hemisphere, visiting particularly the seaports of the West Indies and of the Spanish Main, the south Atlantic seaports of the United States, frequently penetrating to the interior of our domain and that of other countries, causing untold loss of life and commercial disaster. Cleared from one port, the infection found lodgment in others, and again attacked the port from which it had departed. Cuba was its greatest field until the war between the United States and Spain, when those marvelous demonstrations were made by the United States authorities showing that the disease could be conquered, and demonstrating that it is carried and distributed by the *stegomyia* mosquito.

The fact that one port, however thoroughly it might rid itself of this disease, was still subject to its return from other ports, suggested the idea that to completely protect one port it is necessary to eradicate the disease from all infected ports, and that preventive sanitary measures should be undertaken in all ports subject to yellow-fever invasion.

When, in 1901, an international conference of American States was called to be held in the City of Mexico, I was requested by the members of the United States delegation to prepare a memorandum containing such suggestions as might be deemed proper relating to the possible establishment of an international health service. A memorandum was therefore prepared, entitled "International sanitation—Pan-American Republics," the principal features of which are here outlined. It provided for an international sanitary commission, the membership of which should be one diplomat, one learned in the law, one a physician and sanitarian, one a sanitary engineer, one a commercial representative. This commission was to visit the seaports which were well known as foci of yellow-fever infection, and its membership was to be augmented by the appointment of two additional commissioners by the republic governing the infected port visited. A report upon the sanitary measures necessary was to be made through proper channels to the president of said republic, and if after one year the measures recommended had not been begun each republic was to pledge itself to impose upon vessels coming from said infected port such additional tonnage tax or extra duties upon specified imports from said port as would make it in the interest of the said republic to carry out the sanitary measures recommended.

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<sup>a</sup> Address delivered at the Southern Conference on Quarantine and Immigration, Chattanooga, Tenn., November 9-10, 1905.

This memorandum, printed in both English and Spanish, was distributed, and while the plan was not adopted it was of some service in the preparation of resolutions concerning sanitation and quarantine. The resolutions provided for international sanitary conventions of the American Republics and an international sanitary bureau.

Two conventions have been held, both in Washington, the first in 1902, the second last month. In the last one a formal agreement was signed by the delegates ad referendum to their several governments, embodying, among other measures relating to cholera and bubonic plague, the measures relating to the quarantining and management of yellow fever, based upon the latest scientific principles. Word was received, too, that in many of the republics sanitary measures, which will effect the removal of yellow-fever infection to a large degree, were already being undertaken.

I have not considered that in the title of the subject given me, namely, "Yellow fever—origin and prevention," the term "origin" was meant to include the etiology or cause of the disease, yet as the discovery of the yellow-fever germ would doubtless add to our measures of prevention I will state that a systematic and continuous investigation has been conducted for a number of years, and is still being conducted through the agency of the Yellow Fever Institute of the Public Health and Marine-Hospital Service, and while success has not yet been attained, many useful facts toward its attainment have been developed, and the institution is so organized that its operations will be continued indefinitely.

As shown above, too much importance can not be given to the plan of making every seaport where yellow fever regularly or occasionally prevails rid itself of this fever, and the signs are distinctly encouraging. Our southern neighbors are waking up to the situation, and we also are waking up to it and need to.

So much for the origin of yellow fever—that is, the ports from which it comes. To wipe it out entirely from all these places will take time, but obviously the movement to this end is a wise movement. It goes without saying that broad measures like this are absolutely necessary for the attainment of ultimate success. Without such measures we could have no hope other than through the continuous application of the drastic measures of quarantine year by year, which interfere with commerce and require so large an expenditure of energy and money.

But while indulging this hope for better conditions in foreign ports we are not to lessen in the slightest degree measures in our own ports for our own protection against the invasion of this disease. At no time has good quarantine been more necessary than it is at present. The increase of commerce and rapidity of transit have added to the necessity of alertness, exactness, and good organization.

To prevent the invasion of foreign pestilence the United States has a chain of quarantine fortresses, 63 in number, extending around the coast from Maine to Alaska, 23 of which are fully equipped for the sanitation of vessels and 40 being inspection stations. Of these 63 stations 43 belong to the National Government and 20 are State or local stations. Of the 23 fully equipped stations 16 are owned and operated by the National Government. Beginning with Maine and going around the coast to Alaska, the stations under national ownership and management are as follows: In Maine, Portland and East-



port; in New Jersey, Perth Amboy; in Delaware, Delaware Breakwater and Reedy Island; in Virginia, Alexandria and Cape Charles Quarantine; in North Carolina, Cape Fear near Wilmington, Washington, and Newbern; in Georgia, Savannah, Brunswick, and South Atlantic Quarantine, at Blackbeard Island; in Florida, Fernandina, Mayport, Miami, Key West, Boca Grande, Tampa Bay, Cedar Keys, Carrabelle, Port Inglis, and Pensacola; in Mississippi, Pascagoula and Ship Island; in California, San Diego, Los Angeles, San Francisco, and Eureka; in Oregon, Florence, Marshfield, Gardiner, Newport, and Astoria; in Washington, South Bend, Port Angeles, Port Townsend, and Hoquiam; in Alaska, Sitka, Ketchikan, and Nome.

The principal quarantine stations that are still owned and operated by State or local authorities, or by both, are as follows: Boston, New York, Baltimore, Charleston, Mobile, New Orleans, and Galveston.

Now, under the law of February 15, 1893, all of these quarantine stations, both the national and the State, are conducted, so far as quarantine restraints are concerned, under the regulations of the Treasury Department. The State quarantines are obliged to carry out the requirements of the Treasury regulations, but there is no law to forbid their enforcing such additional quarantine measures as they may choose to enforce. It is interesting to note the growth of the idea of national quarantine. Until 1893 there was, properly speaking, no national system. The colonies had their own quarantine regulations before the formation of the Union, and after that event quarantine was left to the care of the State governments, and by the latter to county governments or to municipalities, as the case might be. There was, indeed, national legislation, but all the acts of Congress up to 1893 relating to quarantine, including the first general quarantine act of 1878, specifically provided that the said national measures were in aid of the State and local authorities. The law of 1893 is so well known that it would be superfluous to review its provisions. It is the law under which we are now acting, and while it distinctly recognizes State and local quarantines, it provides a means for accepting State quarantine functions and establishments on the request of a State, and provides also for the assumption of said functions if the Treasury regulations are not enforced, either by a refusal to do so or inability. Since this law was passed, under its various provisions, the quarantines of Maine, New Jersey, North Carolina, Georgia, Florida, Mississippi, California, and Oregon have been taken over and their functions assumed by the national service.

Three efforts have been made for Congressional legislation to make all maritime quarantine strictly national since the passage of the act of 1893. In the Fifty-fourth Congress, second session, a joint resolution was introduced for the prevention of the introduction and spread of infectious and contagious diseases in the United States. It passed the House of Representatives February 27, 1897, and passed the Senate March 2, but failed to receive the signature of the President. Under the terms of this resolution all maritime quarantine would have become practically national.

In the Fifty-fifth Congress, second session, December 9, 1897, Senator Caffery introduced a bill amending the law of 1893 and making all maritime quarantine national. It had also some provisions relating to interstate quarantine. This bill was considerably discussed in the Senate, but was not brought to a vote.

In the Fifty-sixth Congress, first session, Senator Vest introduced a bill amending the quarantine law of 1893, the effect of which would have been to practically increase the national functions in quarantine. Three sections of great value were finally passed by Congress March 3, 1901, but those relating particularly to national control, being opposed by the State and local officials, were not reported by the committee and therefore not included in the act.

It will be seen from the foregoing that by far the greater part of the responsibility for quarantine protection devolves upon the national service, but that there is nevertheless a divided responsibility with regard to the ports which are still State or local. This division of responsibility is embarrassing and injurious. Much of the success of quarantine depends upon the character of the inspection service and attention to details, and in the matter of decisions on points that can not be laid down in hard and fast rules. Much depends also upon the interchange of information, which, from the several stations should be transmitted to a central bureau, thence to be transmitted to the special stations affected thereby. In the great national scheme of quarantine administration this information is freely communicated from the national stations. As a result there is both accuracy and consistency of administration, but there is a lack of that freedom of communication from the State stations to the bureau, and the law does not require it. Hence there is too little knowledge in the central bureau of the dangers and the difficulties which present themselves at the State stations. I should not fail to mention the voluntary cooperation of some State stations, which, however, is voluntary and not arranged on any systematic, regular plan.

A very important feature of the national quarantine administration is its insular and foreign service. National quarantine is absolute in Porto Rico, Hawaii, and the Philippines, and at all the chief ports of China and Japan, and in ports of India and Europe officers of the Service are stationed to examine vessels leaving for United States ports. For the same purpose officers are stationed also in Cuba, Mexico, Central American ports, Ecuador, Peru, and Brazil. The information contained on the bills of health signed by these officers inures to the benefit of the local quarantine officers as well as the national, but they are frequently lost to the Bureau through that lack of close cooperation already mentioned.

There should be harmonious and effective relations between the officers at foreign ports and the officers at domestic ports, and this can not well be unless both sets of officers are under the same administration.

With regard to the personnel of the national quarantine service the Public Health and Marine-Hospital Service is constantly training men for this class of work not only in its laboratories, but in practical work of assistants at the quarantine stations. An officer who might show a want of adaptability or whose health might require his relief can be withdrawn and a substitute of equal experience and knowledge be sent to take his place.

The marine hospitals of the Service, of which there are 22, distributed through all sections of the United States, are valuable training schools for the quarantine and other public-health service. The officers acquire in them both administrative and professional expe-

rience. This experience is utilized at the quarantine stations. At the close of a term of three or four years, during which they have been to a degree deprived of purely medical and surgical work, they are returned to the marine hospitals for a resumption of their more strictly professional labor. The corps is thus kept professionally bright, and through their experience at hospitals and their special contact with contagious disease at the quarantine stations and their expertness acquired in the inspection of ships, they become capable in the management of situations such as that which presented itself during the past summer and fall in the city of New Orleans.

There is an intimate relation between a maritime quarantine and the city which it protects. The quarantine officer is always alive to any suspicion of the existence of a disease in the city which may have passed his quarantine. In several instances of which I have knowledge it was through this interest of the quarantine officer that the presence of the disease was made known.

There is another reason why maritime quarantine should be under the National Government, and that is because of the relations which a quarantine bears to foreign nations. The General Government, and not the States, is empowered to deal with other national governments. And I know of no other nation than our own whose control of maritime quarantine is not strictly national.

There is not the friction which formerly existed between the State and national services. Indeed the operations of the past season have been marked by a spirit of cooperation and friendly assistance. This has been brought about largely by the act of Congress approved July 1, 1902, which changed the name of the Marine-Hospital Service to that of the Public Health and Marine-Hospital Service and contained provisions for conferences between this Service and the State health authorities. These conferences are obliged by the law to be called at least once each year, and other exigency conferences are provided for. Four such conferences have been held, and through them the State and the national health authorities have become more intimately acquainted and have developed a feeling of mutual interest.

Nevertheless, there has been a constant though temperate demand for national quarantine based upon one or more of the foregoing considerations, and it would seem that this might be brought about without a strain of relations, particularly since by law the State health officers have now an official connection with the national health organization.

It should be recalled that President Roosevelt in his last annual message to Congress vigorously advocated a strictly national quarantine law.

Now, as regards interstate quarantine for the prevention of yellow fever, as known to many of you, there are two laws bearing upon the subject. One of these, the law of March 27, 1890, relates to interstate quarantine only and provides penalties, but it has been considered by competent legal authority that it is to be brought into use by proclamation of the President on each special occasion when its enforcement may be necessary. In other words, it does not seem to provide, as does a later law, for the issue of regulations, which are constantly in effect and become operative without further procedure whenever yellow fever to a mild extent is known to have effected local lodgment.

The other law, that of February 15, 1893, has provisions under which interstate quarantine regulations have been prepared and published by the Secretary of the Treasury. These regulations are always in force, and on the first appearance of yellow fever national officers are sent to see that they are being enforced. At the same time they proffer assistance. This assistance is rendered both in accordance with other provisions of the law of 1893 and also in accordance with the terms of the epidemic fund annually appropriated by Congress.

I will not go into the details of these regulations. I believe they are generally understood, and their operations have been observed during the season just ended.

In further considering the prevention of yellow fever it is necessary to dwell upon the destruction of mosquitoes and the screening of yellow-fever patients to prevent the *stegomyia* mosquitoes becoming infected by biting said patients and carrying the infection to others. There is still need of public education in this matter and urging upon all an acceptance of the mosquito doctrine. This work of education has been carried on to a most commendable degree in the city of New Orleans and in other cities and localities recently infected, and circulars describing the methods for the destruction of mosquitoes, showing the necessity of screening first cases and in threatened localities the necessity of screening all cases of fever, have been sent to be posted in every post-office in the Southern States.

The remarkable triumph achieved in New Orleans is of too recent occurrence to require more than mention, even if time permitted a description of the details. That victory will be recorded on the brightest page of sanitary history and its good effect is incalculable.

I have been obliged to treat the subject assigned me in a general manner, omitting many interesting details, but I have endeavored within the limited time at my disposal to give you facts which I hope may be of some use in the formation of your opinions.

## YELLOW FEVER MOSQUITOES OF SOUTHERN EUROPE.

By Asst. Surg. Gen. J. M. EAGER.

In 1902 a series of bulletins was issued by the Yellow Fever Institute giving a historical review of yellow fever in Europe. In these bulletins the question was raised as to what particular mosquito was instrumental in the spread of the disease after its introduction into European ports. The yellow-fever chronicles of Europe are not a mere mention of a few isolated and insignificant occurrences of a disease of doubtful nature, as might readily be inferred from the reading of text-books. The outbreaks were often widespread and in many cases frightfully disastrous. About the nature of these prevalences there can be no reasonable doubt. Expert diagnosticians, having extensive experience with the disease in the West Indies, carefully observed the epidemics in many instances, and have left unequivocal testimony that it was with yellow fever that they had to deal. The history extends from the year 1723 to the year 1894, and includes many epidemics, the most striking being that at Barcelona, in 1821, which caused 25,000 deaths and spread over a wide area, even crossing the water to the Balearic Islands, where it killed one-half of the population of the city of Palma. Since the publication of these reviews of the history of yellow fever in Portugal, Spain, France, Italy, and Austria, attention has been given to the question of propagation of the disease in Europe. In February Doctor Chantemesse made a communication to the Academy of Medicine, Paris, in which he expressed the opinion that mosquitoes now having southern Europe for their habitat were instrumental in the diffusion of the disease in the countries mentioned.

In order to establish what mosquito was responsible for the prevalences recorded in Italy, the writer of the present paper solicited the opinion of a number of eminent Italian entomologists as to the European mosquito corresponding with the American *Stegomyia fasciata*, an insect which, it goes without saying, does not appear by that name in the classification of European mosquitoes made previous to the revision of the mosquito family by Theobald. Professor Bezzi, of Lombardy, responding to the request, wrote that *Stegomyia fasciata* is synonymous with *Culex Rossii* of Giles (1899) and also with *C. calopus* of the same author in the first edition of his manual. In the second edition of his manual (1902) Giles accepts the name *Stegomyia fasciata* for the mosquitoes named. All these mosquitoes are identical with the *Culex elegans* of Ficalbi, a mosquito which is indicated in the writings of Professor Leonardi, entomologist at the agricultural college at Portici, Italy, as occurring in Naples, Florence, Sicily, and Sardinia. Ficalbi says he found the mosquito in southern Italy, but not in large numbers. Professor Bassani, another Italian authority, says that the synonyms of the

*Culex elegans* found in the literature of mosquitoes are sixteen in number, among them *Stegomyia fasciata*; *Culex annulitarsis*, Macq.; *C. calopus*, Meigen; and *C. Rossii*, Giles.

Through the kindness of Professor Eisig, of the Naples marine zoological station, the writer was able to obtain several specimens of *Culex elegans* found in the National Villa, at Naples, a park in which the zoological station is located. These mosquitoes examined by Passed Assistant Surgeon Rosenau, director of the hygienic laboratory, Washington, were found to correspond morphologically with *Stegomyia fasciata*.

It is a puzzling question why yellow fever has not oftener in recent years appeared in spreading form in southern Europe, a section of the world in active maritime communication with yellow-fever territory. It is not a rare occurrence for vessels to arrive in Italian ports from South America with a history of yellow fever aboard during the voyage. Perhaps this exemption is due to the same cause that renders many West Indian islands free from the disease. May it not be that the yellow-fever mosquito is not at all times and under all circumstances capable of transmitting the infection? Experiments with the *Culex elegans* collected in southern Europe and taken to a yellow-fever infected place during a prevalence would be instructive. In many places in southern Europe the *Culex elegans* is rare. The rarity of the insect may account for the infrequent introduction of yellow fever in certain regions. It is not incredible that this incapacity to transmit the disease goes hand in hand with other conditions that will lead eventually to the disappearance of this mosquito from southern Europe. If this be true, it would account for the fact that yellow fever, once such a scourge in Philadelphia and other northern cities, has ceased to spread to those places. Of interest in this connection are the recent experiments of Dr. Fernando Lopez, which seem to show that the *Stegomyia fasciata* can live, bite, and breed for three generations in the City of Mexico, 7,460 feet above sea level.

## REPORT OF A CASE OF CHRONIC PARENCHYMATOUS NEPHRITIS WITH DECAPSULATION OF BOTH KIDNEYS.

By Passed Asst. Surg. W. G. STIMPSON.

E. C. W.; aged 44 years; nativity, German; admitted to the United States Marine Hospital, San Francisco, Cal., July 28, 1904; died September 15, 1904.

**HISTORY.**—The patient stated that he had a chancre twenty years ago. He has been accustomed to drink alcoholic liquors to a moderate extent. His present trouble began five months ago with pains in his back and frequent headaches. Has never had nausea or vomiting, nor hemorrhage from the nose or gums. Examination shows œdema beneath the eyes, slight ascites and swelling of the ankles. Heart and lungs normal. Spleen and liver enlarged. Urine, specific gravity 1.012; acid reaction, 3 per cent of albumen, but no sugar present; daily quantity of urea, 27 grams; contains hyaline and granular casts. August 8, 1904, the patient was given an anæsthetic and both kidneys were drawn out through incisions in the lumbar regions and their capsules removed, after which the organs were replaced in their former positions and the wounds closed without drainage. The deep portions of the wounds healed well; in the superficial portions slight suppuration occurred, which, however, soon disappeared after free drainage. The patient, however, did not do well. He had much nausea and vomiting and suffered considerably from tympanitis. He grew weaker each day, as he could not retain nourishment. He developed other symptoms of uræmia, suffering from cramps in his legs, dyspnoea, and restlessness. His breath had a urinous odor, and finally a parotid bubo developed on the right side and he became unconscious and died at 1 a. m., September 15, 1904.

**NECROPSY** (ten hours after death).—Length of body, 5 feet 11 inches; rigor mortis well marked; skin yellow; slight bloody discharge from nostrils. Right side of face greatly swollen; pus exudes from this swelling upon incision. Two scars of operation wounds extend on either side from one inch outside of vertebral column along lower borders of last ribs to posterior superior spinous processes of the ilia. Brain: Weight, 1,450 grams; tissue, normal; blood vessels, membranes, and sinuses of brain negative. Heart: Weight, 355 grams; chicken-fat clot in right ventricle; thickness of wall of right ventricle, 0.5 cm.; of left ventricle, 2 cm.; valves normal, except mitral, whose leaflets are slightly roughened; tissue of heart is of a bright red color. Right lung: Weight, 1,195 grams; crepitant throughout; slight congestion at lower posterior portion. Left lung: Weight, 850 grams; condition similar to that of right lung. Abdominal fat is of a bright yellow color. Spleen: Weight, 295 grams; color on section, dark red; trabeculæ prominent; consistency, hard and brittle; small amount of blood oozing from cut surface. Left

kidney: Slight adhesions bind it to peritoneum and abdominal wall; no pus present nor evidence of previous suppuration; weight, 340 grams; cortical portion is greatly thickened, of a pearly white color, and extends in broad columns between the pyramids, which are small. The connection of the pyramids to the pelvis is difficult to trace in some places. Right kidney: Weight, 440 grams; condition of tissue and surrounding structures similar to that of opposite organ. Ureters, normal; bladder contains a small quantity of turbid urine. Liver: Weight, 1,950 grams; surface nodular and irregular, deep fissures extending down into its substance in many directions; it cuts with great resistance and feels hard and dense to the touch. The walls of the blood vessels are much thickened, color of tissue dark yellow. Stomach small and large intestine negative.

The following pathological report on the condition of the right kidney was made by Passed Asst. Surg. Donald H. Currie, to whom the organ was submitted for examination:

The organ is probably three times its normal size, of creamy white color. The contrast between cortex and pyramids is almost lost. The cortex is greatly swollen. The consistency can not be judged, owing to the organ having been in formaldehyde for several hours before receipt. In handling the cut surface of the organ the fingers become distinctly greasy. There is a thin capsule noted, probably one-half its normal thickness, and can be dissected from the organ by using great care; but if the slightest force is employed the capsule tears. This tearing appears to be due to the friability of the capsule itself and not to adhesions to the organ. On the contrary, except for this extreme friability, the capsule can be stripped off quite easily. Microscopical examination: The tissues were transferred from formalin to the bichloride-ascetic solution and from thence through the alcohols; embedded in paraffin. For convenience of description the organ will be divided into two parts, first, that portion including the capsule and one-sixth to one-quarter of an inch beneath it; second, the balance of the organ. It is hardly necessary to state that such a sharp demarcation is somewhat arbitrary, as one area shades gradually into the other, but it is sufficiently accurate to bring out the main points from which we are now viewing the specimen, namely, what was probably the condition of the organ previous to the operation, and what was the probable effect of the operation, as seen in that portion of the organ lying nearest its capsule? I shall describe the second portion, which we have designated as the "balance of the organ," first. The malpighian bodies, Bowman's capsule is thickened to about two and one half or three times its normal. The glomeruli are distended so as to completely fill Bowman's capsule. Its epithelial structures take the stain poorly. Their nuclei have in many cases disappeared. Many cells show hyaline degeneration and a few are replaced by fatty globules. The blood vessels which constitute the tufts are compressed, and contain very few blood corpuscles. The tubules are dilated and filled with hyaline material and fat globules. Here and there a bunch of desquamated epithelia is noted as part of the tubular contents; but with few exceptions the epithelial lining of the tubules has entirely disappeared. This is almost absolutely true for the straight collecting tubules. Some of the convoluted tubules still retain an epithelial lining. The intertubular tissue shows the following changes: There is a marked general connective tissue increase amounting to several times the normal. There is a general moderate round cell infiltration. This area shows more vascularity than the glomerulous, which vascularity increases as we descend down the straight collecting tubules toward the pelvis of the organ; but in no place is the blood supply as great as the normal. Unlike the cells within Bowman's capsule, the tissue composing the tubule wall and separating the one tubule from the other stain quite brilliantly, except in the case of a few tubules that still retain epithelial linings, some of which show hyaline and fatty changes where, of course, such changes interfere with the staining qualities. There is no thickening of the blood vessels anywhere in the organ. The other portion of the organ, namely, that just under the capsule and the new capsule itself, presents the following appearances: First, the new capsule which has formed is about one-half the thickness of a normal renal capsule. While for the most part the connective tissue composing it is thoroughly organized, there are areas showing



collections of round cells, apparently undergoing organization. Second, the area under the capsule comprising from a sixth to a fourth of an inch of the outer zone of the cortex. There is (a) all the pathological conditions mentioned as met with in the other portion of the organ; (b) a marked dilatation of many of the blood vessels is noted. Many of these vessels have extremely thin walls in comparison to their total diameter, suggesting that they either represent newly formed vascular channels or great dilatation of smaller vessels. (c) the most noticeable thing in this area is the immense round-cell infiltration, which amounts to three or four or even more times the number met with in the balance of the organ. So far as one can judge from histological appearance, it would appear that the operation has, in the area just under the capsule, first, substituted a subacute for a chronic inflammatory process; second, that the capsule removed by the operation was being rapidly replaced and probably in time, had the patient lived, would be practically a duplicate for the original; third, that there is evidence of increased vascularity, but there is certainly no evidence that this change has been of practical benefit. On the contrary, one would expect that the increase of inflammatory products in this area would tend to decrease the functional activity of this portion of the cortex.

## LUMBAR ABSCESS WITH PERFORATION INTO SPINAL CANAL.

By Passed Asst. Surg. J. A. NYDEGGER.

N. S., colored; age, 34; admitted to Marine Hospital, Stapleton, N. Y., August 31, 1904, with the following history:

One year ago he fell about 10 feet and struck lower part of spine on a ring bolt, also striking on perinaeum. He passed blood from the rectum and penis after the accident. This occurred at sea. He had no medical attention. He got well, apparently. Four weeks previous to admission he was suddenly taken with pain in his back, and a swelling appeared in his side. He was taken to Bellevue Hospital, New York City, and was operated on immediately. Scars of old openings are present in lumbar region and above Poupart's ligament on right side.

Physical examination: Nothing abnormal heard in heart or lungs. He can not flex his spine. There is some tenderness over part of sacrum. Scars present on each side of spine and in right groin. September 3—scar in groin is bulging and fluctuates, and later discharged a large quantity of pus.

Diagnosis: Lumbar abscess.

The patient continued under treatment until November 7 without any apparent improvement. On that date, about midday, he was returning from a walk, and on going up stairs to his ward he noticed some weakness in his legs. At the same time he had pain in his back. The pain increased, and at 3 p. m. a physician was called, who believed the pain to be due to colic, as the patient was in the habit of going out and getting fruit and eating it. One-sixth grain of morphine was ordered. There was some relief, but later the pain grew worse, and at 5.30 p. m. he was seen again and was given one-sixth grain of morphine and 40 c. c. saturated solution of magnesium sulphate. At 6.30 p. m. was seen again, and pain was principally in lumbar region. One-sixth grain of morphine was prescribed. At 9 p. m. he was sleeping. Patient was seen again at 7.45 a. m., and a partial paralysis of the lower extremities was noticed. The bowels had moved without his knowledge. His abdomen was markedly distended. Pain was present over the entire abdomen. There was rigidity of the right rectus and abdominal muscles, and pain was most pronounced at the McBurney point. On being asked where he had the most pain, the patient pointed out this point with his finger. Later complete paralysis of both legs and of the sphincters was noticed. Urine was passed normally. The pulse was very weak and rapid and could not be counted. Respiration was 36 per minute.

As the patient presented all the symptoms of an incipient peritonitis, promising speedy death, and believed to be due to rupture of pus into the abdominal cavity from the lumbar abscess, it was decided to do a laparotomy as a last resort to save the patient's life.

One-thirtieth grain of strychnine was injected about one hour before the operation, which improved his pulse somewhat, but when put on the table the pulse was still very unsatisfactory. Morphine sulphate, one-sixth grain, and atrophine sulphate, one one-hundredth grain, were administered about fifteen minutes before the operation was begun. Ether was used. The patient went under quickly and quietly. Pulse was palpable in the neck at the carotids. Respiration shallow and jerky. Pulse continued about the same, then becoming weak. Strychnine sulphate, one-thirtieth grain, was given. Patient reacted very well and continued in about the same condition as when put on table, except that he became weaker (very little ether was used), and respiration became weaker all the time. Pupils were normal or slightly contracted. About ten or fifteen minutes after beginning the operation, pulse being about the same, suddenly there was a discharge of serous fluid from the mouth and nose, and respiration ceased. Strychnine sulphate, one-thirtieth grain, and ether, 20 drops, were given by needle. Feet were raised and head lowered over table, while artificial respiration was practiced. Respiration was thus continued for sometime, and ether, 20 drops, again administered. There was no more respiratory action. Pulse continued to be perceptible for quite an interval after respiration ceased. Throughout the anaesthesia but 125 c. c. of ether were used and the most of this escaped, as an open inhaler was used and never held close over nose.

NECROPSY (2 hours after death).—Body of male, colored, medium height, and well nourished. Moderate amount of subcutaneous adipose tissue. Slight rigor mortis, and engorgement of muscular vessels. Lungs: Right, weight, 602 grams; adherent to thoracic wall at apex anteriorly, laterally, and posteriorly. Upper lobe hard and congested externally, and does not collapse on pressure. Middle lobe mottled and pinkish in appearance. Lower lobe is same in appearance as middle lobe. On incision of upper lobe there is free exudation of frothy blood-tinged liquid. On incision of lower and middle lobes there is a free outflow of dark sanguinous fluid. There is some appearance of consolidation in apex of upper lobe. Pleura of right thoracic cavity is normal in appearance except at apex, where there are evidences of old adhesions. Left lung: Weight, 302 grams; is very closely adherent in front to pericardium, and to thoracic wall laterally, and posteriorly at apex and base. The upper lobe is contracted to one-fifth the normal size, is solidified, and does not crepitate on pressure; and incision is followed by an outflow of reddish-gray exudate, showing a degeneration of lung tissue. The lower lobe crepitates slightly on pressure, is less solidified than the upper, and there is an outflow of sanguinous fluid on section. The peribronchial glands are enlarged to the size of pecans and are hard to the feel. The pericardium is normal. Heart: Weight, 310 grams; is small and covered about the base with a scanty amount of fat. Valves are normal. Abdomen: The greater omentum is contracted and contains a small amount of adipose tissue. Stomach is pale and moderately dilated and contains a small amount of grayish flocculent fluid. Mucous membrane of stomach is pale. Duodenum is of a mottled reddish appearance externally; internally normal. The Jejunum is also mottled red and congested externally and internally. Ileum is also moderately congested in upper part and marked so in lower

part. The ascending colon and mesentery are somewhat redder than normal. The transverse and descending colon are normal in appearance. All of the intestine is distended with gas. The glands of the mesentery of both the large and small intestine are in a moderate state of enlargement and are indurated. The appendix is about 4 inches long, and is very much thickened and enlarged for 2 inches at the proximal end. The mucous membrane lining is in a stage of marked congestion, being mottled with red. There are no evidences of pus. The pancreas is of a clayish color, is hard on pressure and contracted, and cuts with marked resistance. Liver: Weight, 1,700 grams; is of a moderate size and dark. The capsule of Glisson is easily detached. The liver tissues offer slight resistance to cutting. The gall bladder is moderately distended with fluid, and a small dark gallstone is present in the fundus of the bladder. The spleen is small, contracted, and cuts with considerable resistance. Kidneys: Right, weight, 190 grams; is covered with a slight amount of adipose tissue, and the capsule is easily detached. The kidney is dark in appearance, congested and soft on pressure. On section it appears normal. Left, weight 210 grams; capsule detaches easily. The cortex is dark and congested. On section of organ there is a free outflow of dark blood, otherwise it appears normal.

The spine: Section of vertebræ from sixth dorsal to sacrum. On cutting down on front of vertebræ a large sack containing several ounces of flocculent pus is found extending along the last dorsal and lumbar vertebræ in front and on both sides. An extensive necrosis of the bodies of the vertebræ is present at the lower part of the sack, and it communicates with the spinal canal by an opening in the vertebræ through which the little finger can be inserted. There is a large amount of pus in the spinal canal both above and below this opening. The spinal cord shows evidences of degeneration at the point where it was pressed upon by the pus. The large pus cavity is connected with a fistulous opening on the right side about 2 inches above the anterior superior spine of the ilium.

## TRYPANOSOMIASIS IN THE PHILIPPINE ISLANDS.

By Passed Asst. Surg. VICTOR G. HEISER, chief quarantine officer for the Philippine Islands.

Trypanosomiasis occurs in the Philippines only in animals, and when it is found in horses or cattle, and the causative factor is the trypanosoma *Evansii*, it is called surra. All evidence points to the fact that it first appeared in the spring of 1901. Previous to that time the blood of quite a number of horses had been examined at the Army Medical Laboratory, but no trypanosomes were found. The first report of the organism being discovered in the Philippines was in October, 1901. •

There seems to be some dispute as to who first observed the organism, but it seems to be generally admitted that the first authentic report was made by Allan J. Smith, captain and assistant surgeon, U. S. Army, and J. J. Kinyoun, then surgeon, U. S. Marine Hospital Service. The report is dated "Army Pathological Laboratory, Manila, October 17, 1901," and was published in Bulletin No. 42 of the United States Department of Agriculture of 1902 in an article entitled "Emergency report on surra, by D. E. Salmon, D. V. M., Chief of the Bureau of Animal Industry, and Charles Wardell Stiles, Ph. D., pathologist, Bureau of Animal Industry."

The manner in which the disease was introduced into the Philippine Islands is still an open question. It has been suggested that it was brought here by the horses of the United States Army that were returned here after taking part in the Peking expedition, which horses had come in contact with the Indian cavalry, but there is no evidence to show that the disease was present in China at that time or that it exists there now. It seems most likely that the disease was first introduced into the Philippine Islands by the importation of cattle from the Straits Settlements in 1901. The first horse to succumb to surra in the islands was a race horse, native to the Philippines, which was stabled near Manila with some imported Australian horses, the latter having arrived from Singapore via Hongkong. Shortly afterwards the disease appeared quite generally throughout the archipelago, except in the islands of the Tablas group, Mindoro, and the Batanes.

The theory that the disease was imported directly from China seems to have arisen from the fact that it appeared simultaneously at many places in the Philippines. It was just at that period that the army horses were brought back from China, and, as they were the only animals that were distributed to many points in the archipelago within a short space of time, that would account for the simultaneous appearance of the disease in the different islands. Most of the cattle imported from Singapore were immediately slaughtered at Manila, yet there were a few sent to Legaspi and Tacloban, and others were imported directly from Singapore into Iloilo. And since

there is very free communication between the last three ports and the rest of the archipelago, the simultaneous appearance of the disease could also be accounted for in this manner. It is estimated that at Iloilo and adjacent territory there occurred, between October, 1901, and September, 1904, about 53,000 deaths from surra among horses.

All the evidence collected in the Philippines indicates that the disease is spread by flies or other insects. It is believed that there is no life cycle of the trypanosoma in the insect, and that the mode of transmission is entirely mechanical. Wounds and abrasions of the skin and mucous membranes greatly predispose to infection.

The disease in the horses and cattle of the Philippines is due to the organism known as the trypanosoma *Evansii*. The symptoms of the disease as found here in horses do not differ materially from those described in the horses of other countries. There are no symptoms during the period of incubation, the exact length of which is unknown. In experimental cases the period of incubation has been found to be from four to six days. The onset of the disease is marked by irregular fever, which may be either remittent or intermittent, and the organism can be found in the blood from the beginning. The mucous membranes become pale and later take on a yellowish tinge, and a petechial eruption is also often found on these membranes. There is a muco-purulent discharge about the eyes, and a straw-colored serous fluid often exudes from the nose. In the early stages the hair remains normal, but as the disease advances it becomes rough and dry looking, and may fall out. The bowels and the appetite generally remain normal. The animal is very listless and dejected, and stands with its head hanging down, and is very sluggish in its movements. As the disease advances the hind legs, genitals, and belly become edematous. Edema of the fore legs is rare. During the latter stages of the disease there may be a marked tendency to paresis in the hind legs, but it never reaches the condition of a true paralysis.

The disease also attacks the carabao (water buffalo), but is not so fatal as in horses. The trypanosoma *Evansii* are also often found in rats which are caught about the city of Manila, but apparently the latter suffer no inconvenience from the presence of the organism in their blood. The trypanosoma *Evansii* and *Lewisii* are frequently found in the same rat.

The disease has caused great loss of live stock in the archipelago, and it is estimated that the total number has been a million head of cattle and horses. At times it has existed in epidemic form throughout the islands. The board of health has made great efforts to stamp out the disease, and in a large measure has been successful. Still, there are sporadic cases constantly occurring, and here and there it often assumes the form of a local epidemic. The disease is gradually coming more under control, because the cattle owners are rapidly learning to isolate the sick animals, and thereby the spread is very often checked. Rats are believed to be an important factor in the spread of the disease, and their general destruction in Manila on account of plague has also probably done much in stamping out the disease in the city.

The carabaos, which are the draft animals, often go about for months without apparently experiencing any great discomfort from the presence of the organism in their blood. As a measure against the

spread of the disease, many carabaos have been condemned and killed in the city of Manila. The mortality among horses is 100 per cent. Among other animals the death rate is not so well known, but it is not so high.

In the treatment of the disease no specific has been found, and, in fact, no drugs or other measures seem to influence its course in the slightest. The arsenic treatment advocated by Lingard has proven a complete failure.

#### TRYPANOSOMA NOT FOUND IN MAN.

Although the blood of a great number of persons has been examined during the past few years in the hospitals and laboratories of Manila, so far not one case of trypanosomiasis in man has been discovered. In addition to the examinations made of the sick, it has often happened in the past that the blood of a great many normal persons who are employed in the different branches of the government has been examined. In view of the large amount of laboratory work which has been constantly conducted here, it may be safely stated that if this organism occurred in man it would have been detected before now. There is no evidence to show that the disease may be expected to occur here in the future in human beings, because if there were any likelihood of its conveyance from animal to man there certainly has been ample opportunity for it to occur, in view of the widespread prevalence of the disease in the Philippines since 1901.

## AMERICAN CONTRIBUTIONS TO TROPICAL MEDICINE.<sup>a</sup>

By P. A. Surg. J. W. AMESSE.

Lest we forget that the sudden expansion of this country in 1898 involved obligations not only on the Government but on us as individuals, and particularly on the profession in whose interest we are to-day assembled, I beg to call your attention for a few moments to this field of our latest endeavor.

It is only within the last decade that more than a superficial knowledge of essentially tropical diseases was considered necessary. As our political interests were centered entirely in this country, so was the sphere of American medicine restricted to its boundaries.

We complacently allowed our English confrères to gain one brilliant victory after another in foreign fields, and we calmly watched the scientists of Germany and France and Italy win added laurels in the conquest of the oriental plagues.

In short, we were satisfied to have others blaze the pathway of medical progress in every clime but our own. Promptly, however, with the spread of American sovereignty to the distant Philippines and over the islands of Cuba, Hawaii, and Porto Rico, our ranks were pervaded by an imperialistic spirit which gladly accepted the responsibilities the fortunes of war had so unexpectedly thrust upon us. And it is to the pioneers in this movement—to that earnest, self-sacrificing body of men, both in the Federal service and private life, who have done so much toward the subjugation of the endemic diseases afflicting our new possessions—that I wish to pay tribute on this occasion.

Time will scarcely permit more than a brief summary of the work accomplished in a sphere that, only six years ago, was wholly unfamiliar to the American, but it will suffice, I believe, to impress strongly upon you the value of these achievements.

First among all medical conquests of recent years stands the solution of the yellow-fever problem, following the work of the Reed commission in Habana in 1901.

From the days when this and every other plague were attributed to Divine punishment, or, as Sydenham says, to "a malignant constituent of the atmosphere," the views of authorities have, until recently, suffered constant change, and have been the subject of most acrimonious discussion.

Even such men as Rush, who preached in season and out the miasmatic origin of yellow fever, were often presented with indubitable proofs of its epidemic spread on introduction into the most salubrious sections, and its rapid dissemination aboard an infected vessel was pointed out as conclusive evidence of its contagiousness.

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<sup>a</sup> Read before the Washington State Medical Association at Seattle, Wash., July 12, 1904.



On one point, however, all agreed—that mosquitoes abounded during an epidemic. This observation was published by Rush as early as 1804 and later by a score of writers on the subject, but it was not until 1881 that Carlos Finlay, of Habana, advanced the theory that the mosquito was an intermediate host and the chief factor in the transmission of the disease. And while Finlay accomplished practically nothing in the substantiation of his claim, we owe much to him for its conception, supplying, as it did, the Reed commission with a working hypothesis that led to such brilliant results.

Recognizing the strong analogy between the progress of yellow fever and the spread of malaria, this board convened at Habana began their work by an investigation of the mosquito theory. An exhaustive series of experiments resulted. Several members of the commission submitted themselves to the bites of infected mosquitoes, with fatal results in the case of Lazear. From the first ample justification of Finlay's contention was shown, and in a very few months its truth was confirmed. The species of mosquito known as the *stegomyia fasciata* was proven to be the carrying agent of yellow fever, and the application of this knowledge promptly cleared Habana of her great endemic pest.

Since the crusade against the *stegomyia* in 1901 no case of yellow fever has originated in this hitherto widely infected city. The institution of similar methods confined it in 1903 to a very limited territory in southern Texas, infected from a neighboring district of Mexico, while the same plan of campaign bids fair this season to restrict materially its spread across the border.

Yellow fever must now be considered, as Finlay expresses it, "as a disease produced in individuals belonging to certain races by a two-host, microscopic, perhaps ultramicroscopic germ, endoparasite of the female of a particular species of mosquito—the *stegomyia fasciata*." The work of the Reed commission and the subsequent development by Carter, Gorgas, and others of practical measures for the extermination of the mosquito placed yellow fever in the class of preventable diseases alongside of smallpox and typhoid.

The importance of this discovery from an economic as well as a sociological and a professional standpoint can scarcely be overestimated, nor can the possibilities for advancement following the regeneration of such cities as Veracruz and Rio de Janeiro be overdrawn. The influence of a scientific achievement of this nature is of such direct and far-reaching import to so many millions of people that it is not surprising the profession at large have contributed so bountifully to the perpetuation of the memory of Walter Reed in bronze and marble.

From Welch's eloquent tribute to his work, expressed at the last meeting of the American Medical Association, I quote these lines:

The discovery which he made is peculiarly American. His service to mankind has been paralleled only in two or three instances. It was an admirable, a classic piece of scientific investigation, second only to the discovery of the control of smallpox by vaccination.

Next probably in importance to the demonstration of the mode of transmission of yellow fever was the recognition of the so-called hook-worm disease in our Southern States by Stiles in 1902. Though this disease was known to the Egyptians fully three thousand five hundred years ago and is still spoken of in some countries as Egyp-

tian chlorosis, its connection with the parasite *anchoylostoma duodenale* was not shown until late in the last century. From that time up to 1902 this was supposed to be the only hook worm inhabiting the intestine of man; but in May of that year Stiles demonstrated a distinct species, to which he gave the name *Uncinaria Americana*. Believing the disease was more widespread in the South than the literature seemed to indicate, Stiles requested and secured permission from the Surgeon-General of the Public Health and Marine-Hospital Service to begin an exhaustive field investigation. After a most painstaking study extending over several months he proved beyond question that uncinariasis has been epidemic in the South, particularly in the rural sand districts of Georgia and Florida, for almost a century; that in its varied manifestations it has been mistaken for malaria, pernicious and simple anæmia, and for the systemic disturbance following the filthy habits of dirt eating and resin chewing so common among certain classes.

Warfield, of Savannah, in confirming Stiles's work, has recently pointed out a new agency, the affection known as "ground itch," that must be held in part responsible for the almost universal prevalence of the disease among children in certain districts. He argues that the constant scratching of the inflamed surfaces, usually the feet, transfers the embryos to the fingers, and later, in children, to the mouth.

Of the economic importance of this discovery I quote the following from Stiles's monograph on the subject:

Malaria is admittedly one of the most important diseases from an economic standpoint. In general, uncinariasis is, in the South, fully as important as malaria, and in some respects even more so. It is reducing the labor capacity, hence the productiveness of the family, to as low as 30 to 40 per cent. Nor are the losses in wages and in the laboring capacity and the decrease of productiveness of the family, hence of the farm, and finally of the country and State, the only economic considerations involved. Cases are not unknown where families have sold, moved, or destroyed their homes because of the existence of this disease and because of the belief that it might be due to the locality in which they lived. Taking what I believe to be a conservative view of the subject, I find it exceedingly difficult to escape the conclusion that in uncinariasis we have a pathologic basis as one of the most important factors of the inferior mental, physical, and financial condition of the poorer classes of the white population of the rural sand and pine-wood districts in our Southern States.

Stiles's conclusions on the effect of the ravages of hook-worm diseases on the social and industrial condition in the stricken districts are followed by a discussion of the prophylaxis and treatment, which offers the greatest hope that this truly preventable disease will soon be restricted and finally eradicated. What Stiles has done for the South Ashford and King have accomplished for Porto Rico. With probably as fine a climate as is enjoyed anywhere in the world, the inhabitants of this island exhibit a degree of disability entirely out of proportion to the privations they have undergone. Out of 600 plantation laborers imported from Porto Rico by a Honolulu corporation in the fall of 1900, fully 70 per cent suffered such extreme anæmia that field labor was impossible and the experiment was abandoned.

Various causes have been assigned for this widespread anæmia, and, as in the United States, it has been attributed to paludism, to improper and insufficient food, and to the insanitary surroundings tolerated by the entire population. Ashford and King have so clearly

demonstrated, however, the rôle of the hookworm in its origin that the legislature has recently provided a fund of \$5,000 to begin a campaign looking toward its extermination. It will take years, perhaps, to instill into the minds of these primitive people a comprehensive knowledge of the prophylaxis of uncinariasis and to uproot the filthy habits which have been responsible for its perpetuation among them; but the end is nevertheless in sight, with all the economic gain that it implies for Porto Rico.

The impetus given to the study of the parasitology of the Tropics since the war with Spain has also resulted in substantial gain to our knowledge of trypanosomiasis, a disease long known to affect certain animals, but only recently known to be the cause of the sleeping sickness of South Africa. The earliest American work on this subject was done in Manila, where Kinyoun identified the parasite of surra in a severe epidemic among the animals of the Quartermaster's Department. Since that time the most exhaustive study of surra has been made in our insular laboratories by Freer, Musgrave, Jobling, and others, and in this country various important contributions have been published. To Novy and McNeil, however, of the University of Michigan, must credit be given for the painstaking investigation that led up to the welcome announcement, in May last, of the successful cultivation of the parasite in artificial media. Blood agar tubes inoculated with infected blood were forwarded from Manila to Ann Arbor, some of them on arrival, in spite of the forty-day journey, showing the trypanosomes still actively motile. From these colonies were grown, and for the first time in the history of medicine pathogenic protozoa were isolated in pure culture. Subsequent observations showed that the trypanosomes of surra differs materially from the organisms described by Lewis and by Bruce, proving that surra and nagana, or the tsetse-fly disease, are distinct affections.

This important discovery, simplifying as it will the study of analogous diseases, has done more to establish our position in the front rank of tropical medicine than any work since the yellow-fever investigation in 1901. Collaborers in the Pasteur Institute recognize this, and only a few days ago Doctor Mayajima, assistant director of the serum institute of Tokyo, assured me that Japanese scientists consider it one of the greatest of all medical achievements.

Along other lines than these American bacteriologists have been active and have accomplished much. In the study of amœbic dysentery Craig has recently succeeded in tracing, by means of a modification of Wright's stain, the life cycle of the amœba and in proving the method of its reproduction to be by sporulation. Flexner, Dock, Councilman, and Strong have also published monographs that have been added to the permanent literature, and Hoover and Howard, of Cleveland, in their recent work on amœbic abscess have practically exhausted this subject.

In the study and control of bubonic plague Kinyoun's achievement in San Francisco is known to you all and is a source of pride to the entire profession, while the work of Clavert and Munson in Manila has practically exterminated the disease in that city.

Against leprosy a creditable start has been made, and we may confidently expect the next decade will show a satisfactory advance. At the last meeting of the American Medical Association resolutions were introduced by Doctor Cooper, delegate from Honolulu, urging

the society to request of the Federal Government the early establishment of an experimental station, including hospital and laboratories, at the leper settlement on the island of Molokai for the investigation and study of leprosy, looking especially toward the cure of the disease.

The urgent need of a school of tropical medicine in this country—or, rather, in some one of our island dependencies—is admitted by all, and I am glad to advise you that the nucleus for such an institution actually exists at Manila, where a number of skilled bacteriologists are laboring with the health problems presenting in our oriental colony. Examinations are held each year in various portions of this country for appointments to these positions, the work being carried out under the direction of Doctor Strong, who has accomplished so much in clearing the etiology of the bacillary forms of dysentery. A laboratory second to none in the East is building, and the heartiest encouragement is offered by the insular government to those desiring to prosecute research work.

The question now very naturally arises, How can the practitioner in the State of Washington aid in the promotion of these investigations and advance the study of tropical medicine? He can do it by influencing legislation for the permanent endowment of insular schools and laboratories; he can contribute substantial support by encouraging the institution of courses in tropical medicine in his alma mater and the addition of special lectures by men skilled in this branch of study.

He may encourage, too, individual effort, not forgetting that these pioneers are carrying the standard of American medicine into fields hitherto unexplored. They belong to us; their victory is our victory. We share the reward of their brilliant achievements and should feel in corresponding measure the pride that follows the consciousness of duty ably performed.

## PRIMARY CARCINOMA OF THE LUNG.

By Asst. Surg. H. McG. ROBERTSON.

The comparative infrequency of cases of primary carcinoma of the lung and the indefinite symptoms given in works on the practice of medicine render advisable a report of every such case. The following is published because of some departures from descriptions usually given, and because of some interesting complications:

M. L.; age, 32; born in New York; single; white. Admitted to the United States Marine Hospital, Stapleton, N. Y., on August 19, 1903; died November 5, 1903.

Family history: Negative. Previous diseases: None except gonorrhœa and diseases of childhood. No history of syphilis. Present disease: During the month immediately preceding admission to hospital patient was troubled with cough, shortness of breath, loss of weight, and occasional night sweats; with pain in back beneath left scapula. When application was made for admission this man presented the general appearance of a consumptive; there was slight fever, a weak, rapid pulse and cough, with profuse muco-purulent expectoration. Sputum did not at this time, nor afterwards, contain any trace of blood. The physical examination made at this time showed diminished resonance over lower lobe of left lung. Auscultation gave moist râles over upper lobe of this same lung.

Right lung slightly hyperresonant and breath sounds harsh. A systolic murmur was heard at fourth left intercostal space. Patient was thin, but not emaciated. There was found at the time a tumor at junction of the upper and second segments of the sternum. This tumor was no larger than a pigeon egg and almost entirely painless. Another small tumor was found beneath the skin near the inferior angle of the scapula. This was also painless on pressure.

Repeated careful examination of the sputum failed to reveal the presence of the tubercle bacillus.

For four weeks after admission the condition of the patient seemed to change little. He slept fairly well, had a good appetite, and was quite comfortable, except for the cough. Temperature during this period was practically normal. However, on September 20 there seemed to be a decided change for the worse. Patient complained of severe pains in left side, made worse by forced inspiration, and physical examination revealed a pleuritic friction rub over anterior and posterior surfaces of left lung. About this time, too, the cervical glands of left side were found enlarged. The tumor on sternum was apparently no larger. The left eyelid drooped markedly, and pupil of that eye was dilated. Another unpleasant complication was a phlebitis of right internal saphenous vein, with œdema of the whole extremity. This swelling persisted until death. Some days later the left internal saphenous vein was also involved, but to a less extent. On October 1 the left pleural sac had become entirely filled with fluid and the heart displaced to the right. Percussion revealed flatness over entire left lung, even to apex. The cavity was aspi-

rated and a serous fluid removed. During the next three weeks nearly 3,000 c. c. of serum were removed at different times, yet there seemed to be no diminution in the amount secreted. A short time before death the right pleura became affected to a slight degree. Patient died rather suddenly on morning of November 5.

NECROPSY (8 hours after death).—Rigor mortis and cadaveric lividity slight. Body fairly well nourished. Right lower extremity much larger than left. Left pupil more widely dilated than right. Tumor of sternum. Lymph glands of neck enlarged, as were also glands at other points. All these enlargements were firm to the touch. On incision, a small amount of subcutaneous fat was found. Examination of internal saphenous vein of right lower extremity at middle of thigh revealed a greatly thickened condition of the coats of the vessel, and almost entire obliteration of its lumen. The tumor of sternum was found to embrace the entire thickness of the bone and to invade the sternal ends of the costal cartilages. On section, this tumor was soft and more or less spongy, the cavities containing a yellowish fluid. An enlarged gland in the submaxillary region contained a small amount of apparently purulent material. Most of the glands, however, were solid and white on section. The brain and all the organs of the abdominal cavity were examined and weighed, but none showed any sign of disease. The mesenteric lymph nodes were enlarged and the peritoneum adherent at various places, especially in the region of the liver. Upon opening the thoracic cavity both pleural sacs were found to contain serous fluid, the left 700 c. c. and the right about 300 c. c. The left lung was seen lying in a collapsed state in posterior portion of the thoracic cavity, where it was firmly adherent to the posterior wall and to diaphragm. The anterior surface of the lung was attached to the anterior chest wall by means of numerous long bands of fibrinous tissue. There were no adhesions of right pleura. The left lung was found to be solid and airless. There was no crepitation at any point, and it did not float. The lower lobe was whitish and bloodless, almost translucent, while the upper portion was darker and congested, and on section resembled a piece of raw beef. This lung weighed 577 grams. Right lung weighed 570 grams, crepitated, floated, and was apparently not involved in the carcinomatous process.

The glands of the mediastinum were all enlarged and dark. On section the smaller were found to be solid, while the larger ones contained the same yellowish material found in some of the superficial glands. The pericardial sac was displaced to the right, and found to contain 135 c. c. of serous fluid. Heart weighed 370 grams. Some thickening of aortic valve segments were found, but otherwise the heart presented no abnormal appearances.

It may be stated that the diaphragm on left side was probably involved, for it was in such intimate contact with the base of the left lung as to be indistinguishable from it. On removing left lung a portion of the diaphragm was also taken out, no line of demarcation being visible.

Microscopic examination of specimens of tissues obtained after death showed the presence of a carcinoma invading the lung primarily, and the glandular structures later. The duration of the disease from the first symptoms felt by the patient until death was about four months.

## THE DIAGNOSIS OF INSANITY IN IMMIGRANTS.

By Asst. Surg. THOS. W. SALMON.

The medical officer engaged in the inspection of immigrants assumes no greater responsibility than when he signs a certificate of insanity.

The law has placed this condition among the few diseases which absolutely bar those afflicted with them from admission into the United States. For this reason justice to the immigrant requires a carefully considered diagnosis, while, on the other hand, the interests of this country demand unremitting search for insane persons among the hundreds of thousands of immigrants who present themselves annually at our ports of entry.

It is a fact that foreign immigration is alone responsible for the high rate of insanity which prevails in the United States. In 1890 1 in 588 of the whole population was insane, and of the foreign-born population the proportion was 1 in 256.<sup>a</sup> Among the native-born population the ratio was 1 in 765, which compares very favorably with the ratio of the insane to the whole population in Great Britain, which was (1896) 1 in 322;<sup>b</sup> in Austria (1890), 1 in 460;<sup>b</sup> in Hungary (1890), 1 in 609;<sup>b</sup> in Canada (1902), 1 in 319;<sup>c</sup> in Germany (1884), 1 in 436,<sup>b</sup> or in France (1884), 1 in 399.<sup>b</sup> December 31, 1903, there were 150,151 insane persons in institutions in the United States, of which number 47,407, or 31.5 per cent, were of foreign birth, while the foreign born constituted but 13.5 per cent of the entire population.<sup>d</sup>

The prevalence of insanity among aliens is even more striking, 1 in 50.6 such persons being insane.<sup>e</sup> In New England and in New York the proportion of the population which is insane is probably the largest in the world, being in New England (1902) 1 in 307<sup>f</sup> and in New York (1900) 1 in 329.<sup>g</sup> In the present year, 1905, the proportion has risen in New York to 1 in 296.2.<sup>h</sup> The part played by foreign immigration in producing this ratio is shown by the fact that in New York one in 32.9 aliens is in an institution for the insane.<sup>e</sup>

The economic importance of such an abnormal prevalence of insanity is rarely appreciated. For no other disease is the treatment more costly. Custodial care in which the per capita cost was the only consideration has been almost entirely replaced by treatment in commodious hospitals where all the essentials for the cure or the

<sup>a</sup> Census of 1890.

<sup>b</sup> Mulhall.

<sup>c</sup> American Journal of Insanity.

<sup>d</sup> Personal communication from the Director of the Census.

<sup>e</sup> Annual Report of the Commissioner-General of Immigration, 1904.

<sup>f</sup> Presidential address, Medico-Psychological Association, 1903.

<sup>g</sup> Census of 1900 and Thirteenth Annual Report New York State Commission in Lunacy.

<sup>h</sup> State census of 1905 and personal communication from New York State Commission in Lunacy.

amelioration of the condition of those afflicted with mental disease are generously provided. As the average duration of life of an insane person in such institutions is ten years, the cost to the public of caring for each patient is large. Estimating this amount as \$1,500, the ultimate expense of caring for the 150,151 insane in the United States will be more than \$90,000,000. Besides this, the value of the institutions represents a very large sum, those in New York State having cost \$22,522,672.

During the year ended June 30, 1905, 59 immigrants were certified by the medical officers at Ellis Island as being insane and were excluded. The saving to the public thereby effected was \$88,500, an amount exceeding the entire cost of the medical inspection of immigrants at the port of New York, together with that of maintaining the immigrant hospital.

Important as are the economic aspects of the great prevalence of insanity among aliens and the foreign-born in the United States, it may well be said, when it is remembered that in no other disease is heredity so important an etiological factor, that the effects upon society outweigh all other considerations.

These statistics have not been presented with the intention of showing how unfavorable is residence in the United States for certain classes of aliens, and space does not permit discussion of the question of whether it is an unusual tendency to insanity on the part of the alien or exceptionally adverse conditions affecting him here that make him an easy victim to mental disease. It is with the exclusion of those already insane that we are concerned at Ellis Island, and it is thought that a statement of the remarkable rate of insanity which prevails in the most recent arrivals into the United States may serve as an introduction to a review of the measures taken to detect such conditions, and justify some suggestions to increase the efficiency of this important part of the work of detecting those immigrants who, in the opinion of the medical officers, are physically or mentally unfit for admission into this country.

It can not be said that all the aliens who become insane have been in this country a considerable time before being admitted to institutions, or that only a very few insane immigrants escape detection in the medical inspection, for among those of foreign birth admitted to the psychopathic wards of Bellevue Hospital (New York City) in 1903, 95 had been in the country less than six months and 27 less than thirty days.\* A study of the case histories of a number of aliens in this and other institutions shows that not infrequently the patient has been insane in Europe, the depth of dementia or the systematization of delusions making it highly improbable that the psychosis has been of as short duration as the alien's residence in the United States.

The first responsibility for the detection of insanity in an immigrant rests with the ship's surgeon. He is required by section 22 of the immigration law of 1903 to deliver to the proper authorities on the arrival of the ship in New York "a complete report of the diseases, injuries, births, and deaths among the passengers during the voyage." He is with his passengers for days and sometimes weeks, and has an excellent opportunity for observing any peculiarities of conduct which might suggest mental disease, and yet, with

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\* Second Annual Report Bellevue and allied hospitals.



the exception of cases requiring separation from other passengers or treatment in the ship's hospital, it is rare to find insanity noted on the surgeon's report. The omission results partly from lack of knowledge that this particular information is required and sometimes from an attempt to conceal the existence of such cases, and thereby save the steamship company the expense of their return. By explicitly stating in the instructions on the reverse of the form used for this report (No. 1543) that a notation of signs which might indicate insanity in any passengers is highly desirable, and by imposing the fine provided for in section 14 in instances where insanity which might readily have been detected is not manifested, better cooperation on the part of the ship's surgeons could be secured.

Escaping notice by the officers of the ship, the insane immigrant goes with his fellow-passengers to Ellis Island and immediately passes before the medical officers. Only a brief inspection is possible here, but the greatest freedom is practiced in turning aside persons in whom, for any reason, a more detailed examination is thought desirable. Every effort is made to pick out those whose appearance even remotely suggests the existence of mental disease or the possession of a "psychopathic organization." If the manner seems unduly animated, apathetic, supercilious, or apprehensive, or if the expression is vacant or abstracted the immigrant is held and carefully examined. A tremor of the lips when the face is contorted during the eversion of the eyelids, a hint of negativism or retardation, an oddity of dress, unequal pupils, or an unusual decoration worn on the clothing—any is sufficient to arouse suspicion. The existence of well-marked stigmata of degeneration always serves to detain the immigrant for further inspection and an examination into his mental condition. Old persons are invariably questioned to determine the degree of mental deterioration present, and as a result cases of senile dementia are sometimes found.

After the medical inspection the immigrants go in long lines to the immigrant inspectors, who put to them a number of questions regarding their age, destination, amount of money possessed, ability to read and write, correspondence with relatives, and any matters which, in the opinion of the inspectors, have a bearing upon the right of the immigrants to land. Occasionally an immigrant refuses to make any reply whatever, or shows such marked abnormality of conduct that he is returned to the medical officers for examination. This should be done far more frequently than it is, for during this interrogation the best opportunity is afforded for the detection of cases of insanity. There has recently been placed in the hands of each immigrant inspector a carefully prepared circular calling attention to a few manifestations which should invariably require the return of the immigrant to the medical officers; and by this means a considerable number of insane persons should be found in the course of a year. Evasive answers to questions, uncertainty as to dates and places, suspicion as to the motives of the questioner or his right to make the inquiries, incoherence, obvious misstatements, and undue reticence are a few of the suspicious characteristics to which attention has been called in this circular. A well-marked case of paranoia was detected during the inspection of immigrants at Philadelphia by an inspector who had been present on several occasions when insane persons were being examined by the medical officer. The immigrant had been in

the United States before and when asked by the inspector why he had returned to England answered, "Because certain people followed me from place to place and by their lies prevented me from getting work." An examination revealed an elaborate system of persecutory delusions, which had been the growth of years. Nothing in this man's appearance suggested insanity, and it was due entirely to the inspector's knowledge of some of the common delusions of the insane and to his alertness that the case was found.

After being questioned by the inspectors the greater number of immigrants immediately leave Ellis Island for their destinations in the United States. A few are detained for special inquiry into their right to land, to wait for money or relatives, for treatment in the immigrant hospital, or for assurance of employment, and some for deportation. Not infrequently in the detention rooms an immigrant is noticed acting oddly or becoming excited, and is brought to the medical officers for examination and the existence of insanity discovered.

It is the belief of all the medical officers engaged in line inspection, as well as of several well-known alienists who have observed the primary inspection, that little more can be done than to turn aside suspected cases for examination. The medical officers possess a familiarity with the different racial types and demeanor which could be acquired nowhere else in the world so thoroughly as at Ellis Island and they have a full sense of the great responsibility which devolves upon them in this important part of their work. It is in the examination of those detained from the "line" that facilities have been found inadequate. No person obviously insane or recently in an institution will be accepted at the ports of embarkation by the steamship companies. The cases examined at Ellis Island, therefore, often present the greatest difficulties. With very full histories supplied by relatives and friends and often with the good will of the patient, it is felt many times at reception hospitals for the alleged insane that the period of temporary detention allowed by the law is insufficient in which to make a diagnosis, and in the State institutions, with frequent examinations and all the aid afforded by observation by trained attendants, the diagnosis sometimes remains for several weeks in doubt. At Ellis Island suspected cases can be detained in only the crowded detention rooms together with those held for many other reasons, where the watchman and matrons have no opportunity, even if they had the inclination, to make any useful observations. Some experiences in the past have shown how undesirable it is to place mental cases in the immigrant hospital, which consists of large open wards and is filled with the acutely ill.

An illustration will show the need of a proper place to hold suspected cases of insanity for observation. A second-cabin passenger was observed by a steward to be apparently listening intently at the rail once during the voyage. The steward asked the man, jokingly, what he heard, and the man replied: "Don't disturb me; I am receiving a wireless message." The steward mentioned it as a humorous incident to a medical officer, who sent the man to Ellis Island. There is little doubt that this man had hallucinations and delusions; but several careful examinations failed to reveal them. If he could have been detained, with proper facilities for observation for two weeks, it is likely that the diagnosis could have been made. On

another occasion a Polish woman became excited and incoherent when discovered by a board of special inquiry to have made a false statement, and was sent to the medical officers for examination. In the absence of an interpreter who understood her dialect, and by reason of her incoherence, a satisfactory examination was not possible that day and she was ordered held in one of the large detention rooms until the next day. This room, which was the only one available, was occupied by a number of other immigrants. While there she vigorously assaulted an aged Italian woman whom she afterwards told the doctors she believed to be a witch.

Often it has been found at Ellis Island that simple peasants, coming from remote places in Europe, are so confused by the events which have been crowded into the last few weeks of their lives that their conception of time and place has been entirely disarranged. The first sight of a large city, the first ride on a railway train, the exciting and terrifying experience at sea (any one of which might well be the event of a whole lifetime) have followed each other in rapid succession, and the result is not strange. When something has caused such people to be suspected of being insane it may readily be seen that the diagnosis is rendered difficult. A short detention in a hospital always allows these people, if they are not insane, to become oriented and makes it easier to arrive at a correct diagnosis. It is highly desirable in cases with acute alcoholic hallucinosis to observe the patients long enough to determine how much of the condition is due to alcohol and how much to mental disease. For all these and many other difficulties which are met with in the diagnosis of insanity in immigrants, there is but one practical remedy—the establishment of a pavilion in connection with the immigrant hospital at Ellis Island, where suspected cases can be safely and efficiently cared for and adequate facilities for diagnosis provided. Even if it were possible to arrange a contract with the insane pavilion at Bellevue Hospital for the reception of these cases it would be manifestly unfair to the immigrant to bring upon him the stigma of such a commitment at the very outset of his residence in this country, for the medical officers should feel the utmost freedom in making use of such reception wards. If one in twenty of those sent there for examination was certified for insanity, the cost of providing the pavilion would be far less than the amount saved to the public by such a substantial increase in the number of cases of insanity detected.

However great would be the value of such a pavilion in the diagnosis of insanity, there is another direction in which it would be but little less. In the course of a year a number of cases of acute mental disease are brought in the hospitals of ships, visited by the medical officers, certified and deported without having left the ship. Under present conditions no other course is possible. It is unfortunately out of the question to bring noisy, or actively excited cases of insanity to the immigrant hospital; the city hospitals will not take them and they are not eligible for commitment to the State institutions. And still they urgently need treatment, for the outcome of their disease depends upon the care which they receive in this most critical period. The return voyage of some ships carrying immigrants lasts three weeks and this time, passing with no facilities for even the most primitive treatment and under the most unfavorable conditions for one suffering from acute mental symptoms, is solely responsible in

many instances for a distressing outcome to a very curable psychosis. Immigrants with the most dangerous contagious diseases are removed from the ships at quarantine and treated in the hospitals provided, cases of diphtheria, scarlet fever, and the other lesser contagious diseases are cared for in the hospitals of the city health department pending the construction of those at Ellis Island, but those acutely ill with mental diseases must be treated in the steerage hospitals of ships at sea, because their care requires a few provisions not usually found in general hospitals. The duty to give these unfortunate persons the same degree of consideration that is shown to immigrants with other acute diseases is a very obvious one, for the cure of acute mental disease is as much a requirement of humanity as the cure of pneumonia or of typhoid fever. The deportation of those who recover would still be mandatory under the provision of the law excluding persons who have been insane within five years.

A third useful function would be performed by a pavilion for the reception of actual and suspected cases of insanity. Under the section of the law providing for the return of aliens admitted to institutions for the insane within three years from arrival, cases are often brought to Ellis Island for diagnosis or (when coming from distant States) to await the sailing of ships. At present the only places where these persons may be detained are the large, general detention and deportation rooms, the immigrant hospital, and a "padded cell" in the power house, all very unsuitable.

A psychopathic pavilion in connection with the present hospital would, then, fulfill three important purposes: (1) To provide adequate facilities for the observation of suspected cases of insanity; (2) to make it possible to give humane and efficient treatment to those immigrants who, during the voyage to America, become the victims of acute mental disorders—curing the curable and tiding the others over a distressing phase of their malady—and (3) to afford a suitable place for the temporary detention of those awaiting deportation under section 20 of the immigration law of March 3, 1903.

Psychopathic wards in connection with a general hospital were first established by Scholz, in Bremen, in 1870. Since then special wards for the observation of suspected cases and the treatment of acute, curable psychoses have been created in Berlin, Munich, Cologne, Stuttgart, Dresden, and Vienna. In the United States although observation wards existed previously at the Philadelphia Hospital and Bellevue Hospital, "Pavilion F" of the Albany (N. Y.) Hospital was the first psychopathic pavilion established in accordance with the idea developed on the Continent.

"Pavilion F" is simply a two-story wing connected with the main hospital by a corridor. One floor is devoted to female patients and the other to men. The nurses, who are detailed from the training school of the hospital, are all women, an innovation which has proved entirely successful.

The plan which is here presented for psychopathic wards in connection with the immigrant hospital at Ellis Island has been prepared with the view of providing the simplest and least costly structure which will serve the purposes for which it is intended. Some of its features were suggested by "Pavilion F" and some by the observation wards of other general hospitals. In such a building no considerations should overshadow the peculiar requirements for the

safe care and modern treatment of all classes of the insane, and where these requirements conflict with architectural conventions the latter should be given secondary importance. This is a point which is often lost sight of, but never without unsatisfactory results.

Provision is made for 11 patients of each sex, the men on the lower floor. One ward for three patients, one for four patients, and four single rooms are provided on each floor. While ward care is undoubtedly most satisfactory for the continued treatment of the insane, the pavilion is primarily for the observation of suspected cases whose average stay in the hospital is rather short, and it has been found that for such cases small wards and a liberal provision of single rooms is necessary. Two rooms are set apart at one end of each floor of the pavilion for actively excited or maniacal cases. The walls are of extra thickness and sound-proof construction and very complete separation from the other rooms occupied by patients is effected by the hall and small bathroom intervening. This feature has been found desirable in "Pavilion F." The small bathroom between these rooms gives facilities for the treatment of maniacal cases by continuous baths. In this end of the pavilion are the hydrotherapy room and the water section.

The kitchen service is intended to be from the main hospital, and so the small serving room, with an ice box, a gas range, and a sink, is adequate for the serving of meals and the preparation of special diet. The patients' dining room may be used as a day room, but is inadequate for this purpose. An enlargement of the plan to include a large day room would be very desirable; it has been omitted in the effort to have the pavilion conform to the minimum requirements.

The end opposite to the one containing the rooms for disturbed patients is devoted to administration purposes. On the first floor are a reception hall, a medical office, nurses' room, a clothes room for all the patients, and the nurses' toilet. An elevator being omitted, an easy stairway is provided.

On the second floor of this end of the pavilion is the nurses' room and toilet and the quarters of the resident physician. In a pavilion of this nature it is essential to have a resident physician whose whole time is devoted to the work of these wards and who is within easy call at night, not only for the care of the patients, but because the nursing should be under continuous supervision.

The plans include an inclosed veranda for each floor, but this is not indicated in the sketch plan, as its location depends upon the expense of the pavilion.

A more detailed description is impossible here, but there are a few special features which should be noted. The building should conform to the architecture of the main hospital. The interior finish should meet the requirements of modern hospital construction. The floors should be of well-seasoned, clear rift, southern pine, tongued and grooved and paraffined. The walls should be of hard finish, painted in quiet, harmonious tints. The traditional iron grating for windows should find no place in this pavilion, but instead there should be inside guards of steel wire, arranged to slide into the wall when not in use and padlocked into position when required. All doors in the single rooms and wards should slide into the walls and have a small protected opening for observation of the interior of the rooms. Electric lights in each room should be controlled by

switches in the corridors. The water-closets should be self-flushing, and experience has shown that urinals are undesirable. The water faucets should be controlled by key handles. The heating and ventilation should be by the method employed in the main hospital, but if direct radiators are required they should be protected in the rooms occupied by patients. Every suggestion of the cell-like rooms which used to be thought necessary in hospitals for the insane should be studiously avoided in the furnishing of this pavilion. Bright, but inexpensive, pictures should be hung in all rooms except those devoted to the most disturbed patients.

It is believed that the results from the establishment of such a pavilion as has been described here would be immediate and far-reaching.

The requirements of humanity would be met by giving these unfortunate people the care which modern conceptions of insanity demand, and the diagnosis of insanity, now surrounded by needless difficulties, would be made at least as easy as it is in the observation wards of general hospitals. The greatest advantage, however, would undoubtedly lie in the stimulation of interest in this part of the medical inspection of immigrants not only in the medical officers, but in those responsible for the entire system employed in the enforcement of the immigration law.

The value to the public of the results which could be confidently expected from such increased facilities needs no statement in the face of the statistics quoted at the beginning of this article.

## REPORTS OF NECROPSIES.

Following are the reports on cases dying at the marine hospitals, with necropsic findings:

### ANÆMIA.

#### *Pernicious.*

R. R.; age, 30; nativity, Michigan; admitted to United States Marine Hospital, Cleveland, Ohio, May 8, 1904; died June 24, 1904.

**HISTORY.**—Patient came to hospital with a history of pernicious anæmia, of two years' standing. Upon his arrival he complained of gastric irritability, diarrhea, headache, and general prostration. Skin presented a lemon-yellow color, and body was moderately well nourished. Blood examination showed 1,600,000 to 2,000,000 red cells per cubic millimeter, with a rather high percentage of hæmoglobin. The extreme anæmia was demonstrated by the pallor of the blood and the presence of polkilocytes, megalocytes, microcytes, normoblasts, and a few megaloblasts. Examination of fæces failed to reveal parasites. No cause for the anæmia could be discovered. Despite treatment, patient failed steadily and died of exhaustion.

**NECROPSY** (twelve hours after death).—Skin presented a lemon-yellow color, with a small amount of subcutaneous fat stained a deep orange color. No free fluid in abdominal cavity. The omentum and cæcum were adherent to the abdominal wall, and upon tearing through these the appendix was found to be much atrophied and of a whitish glistening appearance. The pericardial sac contained about 250 cc. of clear straw-colored fluid. Heart weighed 400 grams and was normal in appearance, with exception of right ventricle, which showed marked fatty infiltration, and was somewhat dilated. Lungs were of normal appearance, with exception of marked chalicosis. Right lung weighed 450 grams. Left lung weighed 410 grams. Spleen, normal weight, 200 grams. Right kidney weighed 160 grams; left kidney weighed 140 grams; both normal in appearance. Pancreas weighed 70 grams and appeared normal. Liver weighed 1,600 grams, and nothing pathological was found. Gall bladder contained small amount of dark-colored bile. Stomach was of normal size, but walls were very thin and showed a few submucous hemorrhages of small area. The pylorus was somewhat thickened. The mucous membrane of intestines was pale; small intestines contained considerable amount of clotted blood, but no pathological lesions were found. Brain and spinal cord not examined.

H. S. M.

### APPENDICITIS.

L. C. R.; age, 38 years; nativity, Pennsylvania; admitted to the United States Marine Hospital, Boston, Mass., July 31, 1904; died August 2, 1904.

**HISTORY.**—One year ago patient was seized in the middle of the night by sharp, agonizing pains of a colicky nature, referred chiefly to the right lower quadrant of the abdomen. This attack lasted only a few hours, but left him feeling very weak, and he was unable to attend to his duties for four days. On the evening of July 27, 1904, the patient partook heartily of watermelon and canteloupe. About 4 o'clock on the following morning, while at sea, he was seized with severe colicky pains, referred at first to the epigastric region, later to the entire abdomen. Thinking he was suffering from an attack of "summer diarrhoea," he took a large dose of Jamaica ginger; this failing to relieve the pain he took a dose of Squibb's cholera mixture. He applied hot cloths and took a hot sitz bath, but this failed to relieve the pain. He vomited considerably, and failing to have a bowel movement the next day (July 29, 1904) he took suc-

cessively large doses of "salts," castor oil, and Carter's little liver pills, and also compound cathartic pills. That evening he sweat profusely and had a temperature of 104° F. July 30, 1904, the vessel put in at Provincetown, Mass., and he was given morphine one-half grain hypodermically by a local practitioner, who accompanied him to Boston upon the following day. Upon admission to hospital his facies expressed great pain; his body was bathed in perspiration; his temperature was 37.4° C.; pulse, 100; respiration, 20, shallow and mostly thoracic. The heart and lungs were normal. The abdomen was somewhat swollen and tender, especially in the right lower quadrant. The left side of the abdomen was tympanitic. There was an area of dullness occupying the entire right lower quadrant and extending 3 inches to the left of the median line. The patient vomited greenish fluid material upon an average of once an hour. Leucocytes, 9,280. The patient was bathed, put to bed and everything by mouth withheld. August 1, 1904, the patient was some better and the area of dullness somewhat diminished, but still occupied the right lower quadrant. During the afternoon he passed a great many foul-smelling stools, liquid in character. Patient seemed somewhat weaker in the evening and continued vomiting. August 2 patient was stronger. Dullness covered a smaller area. Toward afternoon vomiting became slightly fecal; pulse weaker, and the sweating greater. Leucocytes, 12,500. At 8.30 p. m. the patient was considerably weaker, and it was decided to operate at once without waiting for further walling off of the abscess. While the preparations for the operation were going on the patient while vomiting seemed to choke and died at 9.35 p. m. before the nurse could summon a doctor. Artificial respiration, stimulation by rhythmic tongue traction, friction of the extremities, atropin hypodermically and dilatation of the sphincter ani were tried but failed to resuscitate the patient.

NECROPSY (14 hours after death).—The relatives of the deceased refused to allow a complete examination of the body, but permitted opening of the abdomen over the region of the vermiform appendix.

An incision 8 inches long was made into the peritoneal cavity. A partially walled-off abscess containing thin pus was found in the region of the appendix. The appendix was post-cecal and was represented by a stump about 2 c. m. in length. In the abscess cavity an enterolith, 2 cm. long by 1 cm. in diameter, was found.

W. E. K.  
W. C. R.

#### BERIBERI.

A. Y.; age, 42; Chinese; admitted Providence Hospital, Seattle, Wash., September 6, 1904; died September 12, 1904.

HISTORY.—Several weeks before admission, while acting as boatswain of a Pacific liner, patient noticed a pronounced tenderness of leg muscles, on slight pressure, with some difficulty of locomotion. These symptoms increased, and the case became further complicated by oedema of the ankles and ascites. On reaching Tacoma he was sent to hospital, where paracentesis was practiced and about 10 liters of fluid withdrawn from the peritoneal cavity. His vessel shifting to Seattle, he was transferred to the seaman's ward of Providence Hospital and brought under the care of the Service. On examination a peripheral neuritis affecting the anterior leg muscles was outlined. There was marked footdrop; loss of patellar reflex and severe pains on deep pressure. The heart sounds were weak and the periods of systole and diastole equal in time; the pulse rate was 112, the respiration 22, and the temperature normal.

The abdomen was enormously distended, measuring over 1 meter at the umbilicus, but no varicosities of the veins presented. Oedema of the ankles was marked.

TREATMENT.—With a trocar and canula a portion of the fluid, which was clear and of specific gravity 1,008, was removed from the peritoneal cavity each day until, on the fourth day, mensuration showed but slight distension. The patient sank into a comatose condition on the fifth day and died on the morning of the sixth.

NECROPSY (24 hours after death).—Body of middle-aged Chinese male; post-mortem rigidity marked; moderate degree of hypostatic congestion; no wounds or scars. Thorax: Adhesions between anterior leaves of the pleura on each side; lungs oedematous, but otherwise normal. Weight of right lung, 850 grams; of left lung, 720 grams. The pericardial sac contained about 25 c. c. clear fluid. The heart was dilated, the chambers filled with clotted blood, and the muscle showed beginning of fatty degeneration, tearing readily and exhibiting areas of



brownish discoloration. The valves were normal, as were also the walls of the great vessels. In the abdomen, the omentum was very thin and contained little fat. In the peritoneal cavity the organs were bathed in a straw-colored serous fluid, amounting to 3 liters. The peritoneum was normal, as were also the intestines and stomach. Right kidney was congested and its tissues soft and friable; weight, 240 grams. The left kidney was enlarged and of similar consistency to the right; weight, 218 grams. The spleen was double its normal size, weighing 500 grams, and cut with slight resistance.

The liver was very small and showed tubercles, varying in size from a pin head to a split pea, studding the entire capsule and, on section, found scattered throughout the lobules. The bladder and external organs of generation were normal.

J. W. A.

## BURNS.

J. B.; age, 46; nativity, Spain; admitted to the marine wards of the German Hospital, Philadelphia, Pa., January 17, 1905, and died January 23, 1905.

**HISTORY.**—On admission the patient presented a superficial burn involving both forearms, hands, face, lips, and right leg. On account of the burned condition of face and lips patient could not articulate distinctly and no history was obtainable. The burns were dressed and the usual anodyne and stimulating remedies administered. The case progressed well for several days, then acute nephritis supervened and the patient died of uremia.

**NECROPSY.**—Body that of a fairly well nourished man. Height, 164 cm.; weight, 78 grams. Post-mortem lividity moderate. No rigor mortis. Superficial burns covering both forearms and hands, right leg, and face. Thorax: There are some fibrous pleural adhesions at apex of left lung. The lung is crepitant throughout, weight 380 grams. Some hypostatic congestion posteriorly. Right lung: Weight, 300 grams, crepitant throughout. Tissue on section appears congested. Some hypostatic congestion posteriorly. Heart: Weight, 380 grams. Valves, blood vessels, and substance all appear to be normal. Abdomen: Peritoneum glistening, transparent, pale. No effusion. Liver: Weight, 1,880 grams; appearance normal. Spleen: Weight, 210 grams; consistency soft; section surface dark red. Right kidney: Length, 12 cm.; width, 7 cm.; thickness, 3 cm.; weight, 160 grams. Capsule normal. Section surface glistening, reddish. Thickness of cortex, 7 mm. Left kidney: Length, 13 cm.; width, 8 cm.; thickness, 4 cm.; weight, 230 grams. Capsule adherent. Surface is smooth; color, dark red; consistency soft. Section surface is glistening and dark red in color. Thickness of cortex, 8 mm. Both kidneys show marked congestion and parenchymatous change. Stomach: Normal. Duodenum: Normal. No ulceration. Pancreas: Weight, 80 grams. Consistency soft. Slight congestion of lower end of ileum; otherwise intestinal tract is normal. Brain: Marked congestion of the superficial vessels of the cerebrum; otherwise appearance of brain is normal.

F. I.

## CARCINOMA.

### *Of Stomach.*

#### I.

J. L.; aged, 41 years; nativity, Ohio; unmarried; white; admitted to the United States Marine Hospital, San Francisco, Cal., January 24, 1905, and died March 13, 1905, at 12.40 a. m.

**HISTORY.**—Patient had cough for several years. Hemorrhage, eight months prior to admission. Had not lost much weight. Night sweats for few weeks only. Tubercle bacilli found in sputum. Three weeks prior to admission began to have pains in epigastrium. Pain not relieved after eating, but increased. Anorexia. Constipation. Slightly increased vocal fremitus and few râles over right apex on admission. Râles later disappeared. Systolic murmur at apex. No tumor palpable on admission, but gastric symptoms rapidly progressed, as did weakness and emaciation, and about a month after admission a tumor could be felt in epigastrium, somewhat to the right of the median line. Later, vomiting and hiccup supervened. Free HCl diminished and lactic acid increased in gastric contents. Patient preferred not to have operation for temporary relief. Tumor rapidly increased in size. Later could retain no nourishment on stomach and rectal feeding resorted to.

**NECROPSY** (10 hours after death).—Length of body, 182 cm. That of a white male. Rigor mortis well marked. Much emaciation. Hair reddish. Fair complexion. Abdominal fat scanty, 1 cm. thick. Brain weighed 1,600 grams, negative. On opening abdominal cavity, stomach found extremely dilated and full of gas and fluid. Lower border of stomach extended 5 cm. below umbilicus. Right lung weighed 650 grams; floats; apex actively congested; pigmented throughout; passively congested at base; crepitant throughout. Left lung weighed 535 grams; condition similar to right. Heart weighed 320 grams; left ventricular wall 2.5 cm. thick; left ventricle empty; mitral valve thickened; ante-mortum clot in right ventricle; right ventricular wall 0.75 cm. thick; aortic valve and lower part of aorta negative. Liver weighed 2,450 grams; studded over entire surface with glistening white areas, which on section prove to be spherical in shape and extend into liver substance; are hard—almost cartilaginous—and vary in size from pea to hazelnut. Gall bladder enlarged; full of dark bile. On complete section the above-mentioned white areas are found scattered through entire liver substance. Stomach measures 30 cm. in length; full of dark-brown colored fluid. Weight, empty, 600 grams. Pylorus very much enlarged and thickened. New growth extending half length of lesser curvature, and involves upper end of duodenum. Pylorus very rigid, admitting small finger with difficulty. On section, tumor is cartilaginous, and completely surrounds pylorus. Right kidney weighed 180 grams, negative. Left kidney weighed 195 grams, slight passive congestion. Spleen weighed 262 grams, pale, substance fairly firm. Mesenteric glands all enlarged. Appendix 5 cm. long; extends upward behind cecum. Bladder contains small amount urine.

J. M. H.

W. G. S.

## II.

**J. R.**; male; white; age, 49; nativity, New York; was admitted July 6, 1904. He had been in hospital from January 15 to January 28, 1904, suffering with acute bronchitis, at which time he had marked anæmia and more or less distress of stomach, pain in left chest, and cough. He returned again March 22, 1904, with the same symptoms, but this time his urine was large in amount, low specific gravity, and contained a trace of albumen. His face was puffy below the eyes, and a diagnosis of granular kidney was made. For the next few months his anæmia became progressively worse, his final hemoglobin percentage being 22 according to Fleischel's method of estimation. His liver extended below the costal margin, the spleen was palpable; the pain in left hypochondrium was almost continuous and so severe that opiates were necessary to produce rest. He neither vomited nor complained of his stomach for the last few months. Died December 26, 1904.

**NECROPSY** (20 hours postmortem).—Body heat absent; rigor mortis present throughout. Hypostasis over back. Build medium. Nutrition fair. Panniculus fairly abundant, musculature small. Skin pale yellow, dry, and of diminished elasticity. Pupils equal. Abdomen distended. Panniculus pale yellow in color. Intestines filled with gas. Liver comes to costal margin in right nipple line. Omentum fairly rich in fat. All abdominal organs pale and anæmic. Hepatic flexure of colon adherent to liver. Mesentery rich in fat. Most of omentum collected in mass in left hypochondrium. Diaphragm arches to fifth intercostal space on both sides. Accessory spleen, size of a marble, found. Spleen firmly adherent to diaphragm. Stomach: Along lesser curvature it presents a thickened nodular appearance ranging from  $\frac{1}{4}$  to 2 cm. thick. Through this mass there is a perforation 6 cm. in diameter, the edges of which are adherent to the left lobe of the liver. The adhesions are easily torn and the stomach peels readily from the liver. The surface of the liver opposite this perforation formed part of the stomach wall. This part of the liver is slightly nodular in appearance, hardened in consistency, and grayish in color. The thickened part of the stomach extends to and involves the pyloric orifice, which admits one finger. The tumor is 13 by 8 cm. in area, and on section shows a firm whitish surface slightly mottled with darker areas; its consistency is that of scar tissue. Section of involved liver area shows hepatic involvement to extend to a depth of 5 cm. Liver: Weight, 1,865 grams; firm and pale. Glisson's capsule thickened near lower margin. On section it is pale and bloodless. Lobules are made out with difficulty. It cuts with increased resistance. Spleen: Weight, 220 grams. Has one notch. Capsule is thickened. Consistency firm. On section it is dark in color. Follicles made out with diffi-

culty. Kidneys: Left, weight, 190 grams. Fatty capsule fairly abundant. Several small urinary cysts size of peas in cortex. Fibrous capsule peels easily. Right, weight, 165 grams, similar to left. Mesenteric lymph glands somewhat enlarged. Lungs: Right adherent to thorax over several small areas. Anthracosis marked. Hypostatic congestion and edema present. Weight, 660 grams. Left similar to right. Weight, 430 grams. Heart: Pericardium contains 75 cc. clear yellow serum. Subpericardial fat increased in amount, organ larger than patient's right fist. Ventricles contain mixed clots. Valves apparently normal. Weight 470 grams. Intestines are thin and papery. Bladder, testes, and adrenals apparently normal, except for general anæmia. Microscopical examination showed the tumor to consist of nests of carcinoma cells embedded in much fibrous connective tissue.

DIAGNOSIS.—Scirrhus carcinoma of stomach, chronic adhesive pleuritis, chronic peritonitis, carcinoma of liver secondary to that of stomach.

J. W. T.  
C. E. B.

*Of liver.*

J. H. H.; aged 55 years; nativity, Sweden; admitted to the United States Marine Hospital, San Francisco, Cal., August 26, 1904; died October 4, 1904.

HISTORY.—Patient stated he had been feeling badly for the past six months. He had had chills and irregular fever. He felt weak and became dyspnoeic on slight exertion. He could eat only the simplest kind of food, as solids produced nausea and vomiting. A tumor, attached to the liver and stomach, was present in the epigastric region. Skin was slightly yellow and the pulse weak. The hæmoglobin was 40 per cent, the number of white corpuscles 24,000 and the red corpuscles 3,600,000 to the cubic millimeter. No albumen or sugar was present in the urine. An operation was advised, but the patient's consent could not be obtained until October 4, 1904. On that date the abdomen was opened and a gastroenterostomy performed, the small intestine being united to the anterior wall of the stomach by the Connell suture. The stomach was bound down so firmly by the tumor that an attachment of the intestine to the posterior wall of the stomach was found to be impossible. The patient did well until 10 p. m. the same day, when he vomited a large quantity of foul-smelling material, and died at 2 a. m. October 5, 1904.

NECROPSY (14 hours after death).—Body poorly nourished; length, 5 feet 10 inches; rigor mortis well developed; skin slightly yellow; operation wound extending from 1 inch below ensiform cartilage to umbilicus. Brain: Weight 1,540 grams, tissue normal, vessels and sinuses in good condition. Heart: Weight, 382 grams; thickness of wall of right ventricle,  $\frac{1}{4}$  cm.; of left ventricle,  $1\frac{1}{2}$  cm.; valves normal except mitral, whose leaflets are slightly roughened. Heart muscle is of a pale red color. Right lung: Weight, 562 grams; upper lobe adherent to thoracic wall, crepitant throughout, frothy serum exudes on section. Left lung: Weight, 520 grams; tissue normal. A tumor the size of a cocoanut binds the left lobe of the liver to the right third of the stomach. This tumor also involves the omentum, but the gall bladder, biliary ducts, duodenum, and pancreas are free. On cutting through the left lobe of the liver a cavity as large as an orange, filled with necrotic foul-smelling material, is found. This cavity communicates with the stomach through an opening in its upper border. The stomach is dilated and contains a quantity of this necrotic matter. The edges of the tumor consist of cancerous nodules, and a large lump the size of an apple projects into the stomach. A section through the tumor shows that it is made up mostly of hard, glistening, sclerotic tissue. The mucous membrane is intact, except at the opening into the liver and the artificial opening made for the gastroenterostomy. The pyloric opening is constricted and admits one finger with difficulty. The jejunum is attached by sutures to the anterior surface of the stomach near its lower border, about 12 inches from the muscle of Treitz. The artificial opening between the stomach and intestine admits two fingers. There is no leakage at the suture line, and adhesive union has already begun between the two structures. Section of the liver shows the presence of cancerous nodules, one as large as a dollar, through its substance. The œsophagus, duodenum, pancreas, small and large intestine, and rectum are normal. Spleen: Weight, 195 grams; color on section, reddish gray, tissue firm. Right kidney: Weight, 192 grams; cortical layer, 0.4 cm. thick; color, reddish gray; pyramidal substance well marked. Left kidney: Weight, 220 grams; condition of tissue same as right kidney; bladder empty.

W. G. S.

## CENTRAL NERVOUS SYSTEM.

*Hemorrhage into cerebrum.*

## I.

L. L.; aged, 36 years; nativity, New York; admitted to the United States Marine Hospital, San Francisco, Cal., November 21, 1904; died March 4, 1905.

HISTORY.—The patient had an apoplectic attack while on a whaling bark six months previous to entering the hospital. On admission he had all the symptoms of right hemiplegia combined with motor aphasia. He improved somewhat at first and was finally able to walk and to talk a little. January 5, 1905, he had an attack of uncontrollable vomiting for several days. He then became bedridden, the flexor muscles of his right arm and leg were strongly contracted, the skin on this side was very tender and small bedsores formed. He died from exhaustion at 4.40 a. m., March 4, 1905.

NECROPSY (10 hours after death).—Length of body 170 cm. Rigor mortis well marked. Body emaciated. A few small bedsores on back. No scars on scalp nor sign of fracture of skull. Brain weight, 1,152 grams. A degenerated area the size of a lemon occupies the middle lobe of the brain on the left side; it extends deeply into the structure of the brain and is surrounded by a thin capsule. The tissue within this area is of a pale yellow color; it is atrophied and of soft consistency. The rest of the brain is apparently normal. Heart, weight 300 grams, contains considerable fat between the muscular fibers. The walls of the aorta present many rough indurated spots, but the coronary arteries are in good condition. Right lung, weight 610 grams; lower lobe dark red in color and less crepitant than upper; blood exudes on section. Left lung, weight 605 grams; condition similar to other lung. Liver, weight 1,620 grams; color on section dark red; tissue firm; gall bladder contains a little bile; ducts patulous. Spleen, weight 150 grams; pulp soft; color bright red. Kidneys apparently normal. Bladder, stomach, and intestines negative. Appendix 8 cm. long, its tip extending into pelvis.

PATHOLOGIC DIAGNOSIS.—Old hemorrhage into left middle lobe of cerebrum.

W. G. S.

## II.

Chas. S.; age, 47; nativity, Sweden; white male; admitted to the United States Marine Hospital, Portland, Me., July 27, 1901; died December 13, 1904. Post-mortem held December 14, at 10.30 a. m.

HISTORY.—The captain of the barge *Knickerbocker* stated that he had received the patient at a shipping office in New York, where he was told that the man was a good, steady sailor until frost-bitten last winter. He went to New York and entered a hospital; since then he has done no work. About the time he entered this hospital he was drinking very hard. He has been on the barge *Knickerbocker* seventeen days, but has been unable to do any work, and appears to lack will power; at times he suffers with hallucination and labors under the fear that were he to leave his bunk it would be filled with coal, or that some one is after him with the intention of doing him an injury. He is very weak and emaciated and takes food only when forced to do so. He is thin, haggard, and extremely quiet. He is slow in answering questions, and a minute or two elapses before he makes a reply; is disinclined to exert himself; confused in regard to past events; says he has no place to go, and wants to return to New York, as he has no right to enter this hospital and is afraid we will turn him out. Sleeps well; appetite good; no paresis. During the three or four years of his stay in this hospital he seemed to enjoy a fair degree of health; mentally he was to a large extent incapacitated, but was able to do light work about the wards and was of assistance to the nurses. He was never violent and was well behaved, but melancholic. On December 12, 1904, at 6.30 a. m., he was seized with an attack of vertigo, which was soon followed by unconsciousness, with paralysis of the entire body, contracted pupils, and blowing respiration. The patient did not regain consciousness, but died on December 13, 1904.

NECROPSY.—Body that of a medium-sized white male; muscles well developed. Body pale in color; abdomen slightly distended. Hypostasis seen on posterior parts of the body. Rigor mortis well marked. Hair on head abundant, straight, and black in color. Beard short, gray in color; eyebrows heavy and, like the eyelashes, gray in color. Eyelids are only partially closed; mouth closed; no

discharge from mouth or nose. Glands in neck slightly enlarged. Muscles of abdomen somewhat dry and red. Cartilage of ribs unossified; vessels of the neck empty; thyroid gland atrophied and small; larynx covered with sticky mucus; diaphragm attached between the seventh and eighth ribs. Pericardium adherent posteriorly and to diaphragm. The pericardium contains a small amount of reddish fluid; heart filled with post-mortem clots; right ventricle dilated, containing an ante-mortem clot. Aorta sacculated, containing on its inner surface plates of calcareous degeneration as large as a quarter of a dollar. Mitral valve thickened and covered with calcareous concretions; incompetent, admitting the ends of two fingers; weight of heart, 416 grams. Liver is firm to the touch; surface of a pale brownish color; bleeds freely on section; weight, 1,472 grams. Spleen closely adherent to the diaphragm; small; externally wrinkled and bluish in color; on section, dark red in color; weight, 96 grams. Appendix 6 inches long and contains fecal matter and mucus. Left suprarenal gland enlarged and degenerated. Capsule of the kidney is thin and peels off easily; surface of the kidney brownish red; consistence firm. On section the line between the cortical and medullary substance is well marked; connective tissue increased; weight, 208 grams. Right suprarenal gland in same condition as left. Capsule of kidney is adherent. Kidney tissue is hard and contains a small cyst on its posterior surface. Weight of right kidney, 160 grams. Stomach is small and contains yellow mucus; pylorus large. Bladder contains a small quantity of yellow-colored urine. Slight anterior curvature of spine. Dura adherent to calvarium. Dura much thickened. Lateral ventricles entirely filled with blood clots. Large clot also found on the floor of the pons. Brain substance at the base of the brain, on the left side, and on the floor of the fourth ventricle very soft and washes off with water. Pia mater much inflamed and thickened. Cribiform plates extend high up, the crest extending up as far as middle of the frontal bone. Skull is thick behind; very thin in front. The sinuses are nearly an inch across. The cerebrum weighs 1,504 grams. Cerebellum weighs 224 grams.

Cause of death, rupture of blood vessel and hemorrhage into brain.

**PATHOLOGIC DIAGNOSIS.**—Hemorrhage into lateral ventricles and pons varolii; atrophy of thyroid gland, chronic pericarditis, atheroma of aorta, atheroma and sclerosis of mitral valve, and chronic meningitis.

F. L. Q.  
W. P. M.

### III.

J. L.; aged 47 years; nativity, Sweden; admitted to the United States Marine Hospital, San Francisco, Cal., January 28, 1904; died July 21, 1904.

**HISTORY.**—This man had an attack of hemiplegia of the right side the day before he was brought to the hospital; the paralysis was accompanied by aphasia and inability to pass his urine. He had frequent convulsive attacks, sometimes as many as five in a day. He recovered from these attacks sufficiently to walk around, and there was some improvement in the aphasia. On July 1, 1904, he had a severe convulsion, which was followed by unconsciousness for some hours. The next day his mental condition was dull and his hemiplegia had returned. He ate with difficulty, and blisters formed on different portions of his body. He died from exhaustion July 21, 1904.

**NECROPSY** (24 hours after death).—Length of body, 5 feet 10 inches; tattoo marks on hand and legs; body greatly emaciated; rigor mortis well marked. **Brain:** Weight, 1,410 grams, membranes apparently normal; no sclerosis nor atheroma of blood vessels. Corpus striatum of left side and tissues around it are of a deep-red color. Pons varolli and medulla oblongata are normal. **Heart:** Weight, 325 grams. A quantity of fat on outside of heart and also between the muscular fibers. The heart muscle is of a dark-brown color; mitral valve thickened, edges nodular, other valves normal. Left lung adherent to pericardium; weight, 380 grams; crepitant throughout; a little bloody fluid exudes upon pressure; color, reddish gray. Right lung adherent to pericardium and back of chest; weight 480 grams; condition same as other lung. **Spleen:** Weight, 110 grams; tissue apparently normal. **Suprarenals** negative. **Left kidney:** Weight, 180 grams; pyramids prominent; cortex reddish gray; width, about 0.5 cm. **Right kidney:** Weight, 185 grams; condition same as other kidney. **Stomach, intestines, appendix, and mesentery** normal. **Liver:** Weight, 1,550 grams; organ presents a mottled appearance on section, due to congested hepatic and anæmic portal territories. **Pancreas and great vessels** negative.

W. G. S.

*Softening of.*

H. G.; aged 44 years; nativity, England; admitted to the United States Marine Hospital, San Francisco, Cal., April 5, 1905; died April 12, 1905.

**HISTORY.**—Patient was struck on head six months ago by a box of asparagus. He was stunned for a short time and immediately afterwards had severe headache and vomiting. Since that time he has had more or less pain in his head and his memory has been poor. He has frequently had convulsions followed by unconsciousness, the attack beginning by twitching of his right arm and leg. For past two weeks pain in head has been severe and he has been very weak.

**EXAMINATION.**—Pupil reflex, right eye, sluggish; patella, wrist, elbow, and plantar reflexes exaggerated. Heart and lungs normal; patient stupid, hard to arouse; urine normal. Number of white corpuscles to the cubic millimeter, 12,000. April 10 the patient was given chloroform and the skull was trephined over the left parietal region. The trephine opening was made on the left side, as this was the location of the original injury and the convulsions began each time by twitching of the muscles of the right side. On removing the button of bone the brain was found to be normal at this point. The patient remained in a state of stupor after the operation; face was white and pulse feeble. At 2 p. m. the next day 20 c. c. of fluid was withdrawn from the spinal canal by lumbar puncture. This fluid was clear, no bacteria or cells being present. He died at 5.25 p. m. of the same day.

**NECROPSY** (18 hours after death).—Length of body, 150 cm.; tissues well nourished; semilunar flap present over left parietal region covering trephine opening, 4.5 cm. by 2 cm. Wound clean; healing of skin flap has begun. Brain: Weight, 1,477 grams, membranes apparently normal; there is extensive softening of the cerebral tissue, involving right parietal, right temporo sphenoidal and anterior third of right occipital lobes, external to internal capsule and basal ganglia; there is no pus, but tissue is thoroughly disintegrated. Rest of brain normal. Left lung: Weight, 465 grams; tissue normal, except slight congestion of lower lobe. Right lung: Weight, 390 grams; negative. Heart: Weight, 282 grams; thickness of right ventricular wall  $\frac{3}{4}$  cm., left ventricular wall 1.75 cm.; valves normal, except mitral, whose leaflets are slightly thickened. The omentum contains a large amount of fat. The spleen weighs 87 grams; negative. Left kidney weighs 112 grams, capsule thin, strips easily, organ normal. Right kidney: Weight, 127 grams; cortical portion grayish-red color; pyramids well marked; average thickness of cortex 0.5 cm. Suprarenal capsules, ureters, bladder, and genital organs negative. Liver: Weight, 1,087 grams; tissue, pale-red color; interstitial tissue increased. Gall bladder full of bile, ducts patent. Stomach, pancreas, and intestines negative.

W. G. S.

*Chronic meningitis.*

A. W.; age, 23; nativity, Cape Breton; single; before the mast; admitted to the United States Marine Hospital, Boston, Mass., April 20, 1905, and died May 7, 1905.

**HISTORY.**—Patient stated that one month before admission he fell from aloft and struck the deck "flat, all spread out." After this various joints became swollen, and he was treated by a local physician for about a month, after which he shipped and worked for six days, when his present trouble began. He considers his present illness a continuation of the first one. (This history was obtained under great difficulties, as the patient was very "flighty," and too great credence should not therefore be placed in his statements.) Present history: Patient complained of pain and stiffness in the back of neck, with considerable headache in occiput and inability to properly use the left hand and left leg and foot. On physical examination the head was found thrown back, neck stiff and painful on motion, both passive and active. The reflexes on the right side of body were normal, on the left side they were diminished, especially at the elbow and knee. No exaggerated "Babinski" on either side. Slight bilateral ptosis, no deviation or strabismus, pupils reacted normally to light and accommodation, no photophobia. Left arm, forearm, and hand, and left leg and foot performed movements very sluggishly and with considerable loss of power. No paralysis. Ice bags were applied to the head and magnesium sulphate, saturated solution 75 c. c., given. From this time on patient had varying intervals of comparative mental lucidity, followed by dullness and apathy. At times delirious and complained of considerable occipital pain. Temperature at no time rose above 37.8° C., and for the most part was normal. May 1, eleven

days after admission, pain became more intense, there was torticollis, head being drawn to the left side, and pupils widely dilated. Patient was restless and delirious and was given elixir potassium bromide, 10 c. c., and morphine sulphate, 0.02 gram. From this time until his death the patient varied between unconsciousness and delirium. May 7, 1905, he sank into a deep coma and died at 4.10 p. m.

NECROPSY (18 hours after death).—The body is that of a very well-developed, but emaciated young man. Post-mortem rigidity and lividity well marked. All organs, with the exception of the brain and spinal cord, are normal and weigh as follows: Heart, 310 grams; right lung, 500 grams; left lung, 475 grams; liver, 1,600 grams; pancreas, 180 grams; right kidney, 215 grams; left kidney, 225 grams; spleen, 200 grams. The spinal cord weighs 30 grams; its anterior surface is intimately attached to a thick fibrino-purulent mass varying in width 1.5 to 3 cm. and extending almost continuously from the base of the brain to the cauda equina. This occupies and binds together all the membranes of the cord. The vessels are, most of them, overfilled. The brain weighs 1,410 grams and presents much the same conditions as those found on the anterior surface of the spinal cord, although the exudate was not so diffuse. The lateral ventricles were dilated with a purulent fluid. The ependyma were covered with a fibrinous exudate.

C. E. S.  
W. C. R.  
R. M. W.

### *Hemiplegia.*

#### I.

A. M.; age, 30; nativity, Michigan; admitted to the United States Marine Hospital, Detroit, Mich., July 25, 1904; died November 11, 1904.

HISTORY.—Family history negative. Personal history negative till six years ago, when he contracted syphilis. He was treated for this intermittently and was receiving treatment for mild symptoms of the disease when present trouble began. Upon rising from dinner after a moderate meal he fell, and found on attempting to rise that he had lost full control of left leg and arm. He recovered sufficiently to make his way to the hospital unaided, where he arrived in a hysterical condition.

Upon admission patient walked with difficulty and became dizzy when standing. He showed motor paralysis of muscles of left shoulder, arm, and forearm, the shoulder drooping and limb hanging limply; partial paralysis of muscles of left side of abdomen, left thigh, and leg, the limb spastic with exaggerated tendon jerks; pupils equal and reactions normal. Muscles of face and neck showed slight involvement at times. Patient excitable, but rational. Some delay in beginning act of micturition.

Two days after admission the patient awoke at 2.15 a. m., aphonic and hysterical, with total motor paralysis of limbs on left side and incontinence of urine. Obstinate constipation and dribbling of saliva appeared, the latter probably due to paralysis of muscles of face and throat. Incontinence of urine was succeeded by retention. Six days later he suddenly regained his voice, though speech was imperfect. Mental condition improved, but paralysis of left limbs was unchanged. By August 23 he was able to speak fairly well and walk a little.

His mental condition now began to grow rapidly worse; he imagined that effort was made to poison him, was frequently delirious, requiring restraint, passed into dementia without much further change in his muscular paresis. He began to lose strength and flesh. Sixteen days before death his temperature, which up to that time had been uniformly normal, assumed an irregular course, ranging between 37.5 and 39 until death, which occurred in coma.

NECROPSY.—Examination of brain (hardened in 50 per cent alcohol) showed meninges normal in appearance; brain symmetrical. The right cerebral artery presented an anomaly in being only about one-fifth the size of the left one, of which the basilar artery appears merely a continuation. All vessels appear normal, without sign of atheroma or aneurism. The entire brain substance, including basal ganglia and adjacent parts—pons, medulla, and cerebellum—were examined for areas of sclerosis, cyst, abscess, discoloration by hematin, or other evidence of hemorrhage with negative result. The substance of the interior of both hemispheres was softer than usual, this phenomenon not confined to any special region, and constituted the only pathologic change found.

F. C. S.  
H. W. A.

## II.

M. S.; aged, 47; nativity, Australia; male; white; admitted to the United States Marine Hospital, New Orleans, La., July 23, 1904; died August 23, 1904.

**HISTORY.**—Admitted for sprain of right foot; gave syphilitic history, having contracted the disease a number of years ago. Soon after admission he began to exhibit symptoms of dementia, and within a few days there supervened a right-sided paralysis, beginning in the lower extremity, and rapidly involving the entire side up to the neck, both motion and sensation being lost; he then passed into a semiconscious state. There was no involvement of the facial muscles, nor was the power to articulate lost, although he spoke in a whispering voice. He was put on antisyphilitic treatment. He continued thus until August 23 (a period of eighteen days), when his pulse became weak and rapid, his respiration hurried and labored, and his condition grew rapidly worse until his death, which occurred August 23, 1904.

**NECROPSY** (15 hours after death).—Rigor mortis well marked; subject somewhat emaciated; height, 1.72 meters. Skull cap thin and easily sawn through. At anterior border of occipital bone there is a roughened depression, evidently the result of an old traumatism. Dura normal; pia, vessels injected, membrane cloudy. The lateral ventricles contain a small quantity of fluid. Upon cutting into the left hemisphere the cerebral substance is seen to be pale and anemic, the gray matter is softened and of a cheesy consistency, and beneath the motor area is a cavity partly filled with detritus. The right hemisphere is pale on section, and its substance softer than normal. The vessels of the cortex are not perceptible. Cerebellum and medulla are pale. Brain weighs 1,400 grams. Thorax: No adhesion between pleuræ and chest wall; small amount of fluid in right pleural sac; some evidence of consolidation in lower lobe of right lung, and dependent portions are in a state of congestion (hypostatic); weight of right lung 520 grams, left lung 380 grams; the pericardium contains a little fluid; heart slightly larger than normal and shows considerable fat on the surface; heart muscle soft and flabby; the right heart contains a small amount of dark fluid blood; valves normal; left heart empty; valves normal; weight of heart 320 grams. Abdomen: Stomach collapsed and empty, intestines nearly so. Spleen engorged with blood; parenchyma dark; weight 170 grams. Liver rather small, weight 1,490 grams.

T. H. McK.

C. P. W.

*Embolism of the middle cerebral artery.*

H. H.; age, 23; born in New York; admitted to the marine wards of the German Hospital, Philadelphia, Pa., September 5, 1904; died at the Municipal Hospital, October 7, 1904.

**CLINICAL HISTORY.**—The patient was admitted from his ship with right hemiplegia and nearly complete motor aphasia. Four years ago he had an attack of rheumatic fever, but otherwise his history was negative until the onset of his paralysis. Ten days previous to his admission, while preparing to get into his berth, he became dizzy and suddenly lost the use of his right leg and arm, and discovered that he was unable to speak. He did not lose consciousness. In a few days he regained some power in his leg, but the condition of his arm remained unchanged. When examined on admission he was found to have paralysis of the right arm and leg and slight paralysis of the face. There was some atrophy of the muscles of the paralyzed arm; the deep and superficial reflexes were increased and ankle clonus were present. In response to questions the patient was able to say only "Yes" and "New Bedford." Word-deafness, sensory aphasia, and apraxia did not exist. Agraphia was not complete, the patient being able to write his name and a few other words with difficulty. A loud and distinct mitral systolic murmur which was transmitted especially to the axilla but audible over the entire chest was present. The urine was normal and the examination of the abdomen showed no abnormality. After having been in the hospital a week the patient developed a severe angina with a firm exudation in the throat. There was a rise in temperature, and as his symptoms suggested diphtheria he was transferred to the Municipal Hospital. Diphtheria bacilli were not found in cultures. A few days before the patient died he had spasmodic contractions of the paralyzed limbs, severe retching and vomiting, and feeble and intermittent pulse.

**NECROPSY** (8 hours after death).—Body moderately emaciated. Rigor mortis present. The superficial muscles and fat normal in color and texture. On



opening the peritoneum the distended stomach presented. It was prolapsed, the most dependent portion reaching within 5 cm. of the symphysis pubis. The length from the cardia to the lowest margin was 33 cm., the maximum width was 15 cm., the organ occupying the entire anterior part of the abdominal cavity and the intestines being crowded into the pelvis and completely hidden by the overlying stomach. The pylorus was at a point midway between the umbilicus and the lower border of the ribs in the midclavicular line. The peritoneal cavity was dry. The spleen was large, light colored, soft, and friable, and contained one small, healed infarct, but none of recent origin. The adrenal glands were normal. The kidneys were rather firm. The capsule stripped easily. The incised surface was grayish in color, especially the cortex. The pyramids were rather pale. The liver was somewhat pale in color, but presented no other change. The pancreas was normal. Except for their prolapse and their position in the pelvis the intestines were normal. Other than the dilatation and prolapse noted in the stomach showed no abnormality. The pleural cavities each contained about 20 c. c. of clear fluid. There were no adhesions. Both lungs were voluminous and posteriorly dark in color; anteriorly they were light-colored and easily compressed. The incised surfaces were dark and exuded frothy, blood-stained fluid. The pericardium contained 30 c. c. of clear fluid. The heart was large but not displaced. Its right side was moderately distended with partially clotted blood; the left side was practically empty. The myocardium was pale, but fairly firm. The endocardium was grayish and the papillary muscles showed considerable fibrous change. The mitral valve had thickened leaflets on the margins of which were several recent vegetations. These were grayish-red in color, and quite firmly attached to the leaflets. Some of them projected 1.5 cm. and varied from 2 to 5 mm. in thickness. The projecting portions were quite friable. At least a third of the inner surface of the left auricle showed thickening and roughening of the endocardium. This change was of recent origin, the area being reddish-gray in color and quite soft. The aortic valve was normal. The aorta showed a minute patch of atheroma. No gross lesion of the coronary arteries was apparent. The brain showed marked distention of the superficial vessels. The left ventricle was distended with partly-clotted blood, and posteriorly was in communication with an area of softening which appeared to correspond largely with the distribution of the middle cerebral artery and, involving most of the parietal lobe, extended into the occipital lobe. This softened area was approximately the size of an orange and extended within 1 cm. of the external surface of the brain. When the blood and necrotic cerebral tissue filling this space was removed the portion of the brain covering it collapsed. No gross changes existed on the right side of the brain.

F. I.

*Epilepsy.*

J. N.; age, 55; nativity, Tennessee; was admitted to the United States Marine Hospital, St. Louis, Mo., April 11, 1904, and died February 2, 1905.

**HISTORY.**—The patient had been ill and almost helpless for some two years before admission, and had been under treatment from time to time for organic stricture of the urethra, probably from gonorrhea. On admission he was bed-ridden, was unable to feed himself, could not walk without assistance, and was troubled with a constant dribbling of urine. His speech was slow and defective, mind clear, and he complained of pain along the spine and in his legs and ankles. About October 1 epileptic seizures became manifest during the day, which were before unsuspected. These, while apparently few at first, gradually increased in frequency until he would have five or six daily, each characterized by an aura, rapidly followed by a minute or two of stupor, then rapidly passing off. Strychnine, arsenic, milk punch, and a liberal diet made him comfortable, and his improvement under the alternative treatment was very satisfactory until within a month of his death, when he began to fail. He died very suddenly, just as he had walked from his bed to the toilet. His temperature chart presented nothing of interest, and frequent examinations of his urine showed only a slight trace of albumen.

**NECROPSY** (20 hours after death).—Body that of a middle-aged, white male, well nourished and fairly muscular. Rigor mortis marked. Skin of a faint pinkish shade, body somewhat oedematous. Subcutaneous fat thick in upper portion of abdomen, and less so below. Heart enormously enlarged, loaded at its base with fat; pale, weight, 855 grams. Aortic valve incompetent. Aorta from origin to commencement of descending portion is a large fusiform aneu-

rism of about 600 c. c. capacity, having much the appearance and feeling of buff leather, and showing frequent patches of atheromatous deposit on the inner surface of the wall. This condition is continued into the innominate and common carotid arteries. Heart walls thinned. Pericardium apparently normal. Right pleura obliterated by old and firm adhesions; left apparently normal. Lungs: Right adherent to chest wall throughout; bronchioles on section showing calcareous degeneration and exuding frothy fluid with some pus; weight, 660 grams. Left not adherent; otherwise in same condition as right; weight, 670 grams. Liver somewhat small, pale in color, and lumen of vessels on section unusually large, capsule strips readily; weight, 1,570 grams. Gall bladder large, and contains about 100 cc. of very dark, viscid bile. Spleen of light currant-jelly like consistence; capsule adherent; weight, 250 grams. Kidneys loaded with fat, of medium size; capsules removed with difficulty; pelvis almost occluded with fat; weights, right, 260; left, 245 grams. Appendix nodular; medium length. Bladder contracted and empty, walls very thick. Urethra strictured tightly throughout penile portion. Skull unusually thick anteriorly and posteriorly, much thinner laterally. Brain "wet," dura mater showing several wet pearly patches along longitudinal fissure; weight, 1,230 grams.

H. C. W.

J. M. G.

### DIABETES MELLITUS.

#### *Tubercle of lungs.*

#### I.

A. K.; age, 35; nativity, Canada; admitted to the United States Marine Hospital, Detroit, Mich., August 16, 1904; died December 28, 1904.

HISTORY.—Family and personal history negative. Present trouble began three weeks ago with a sense of illness, headache, and pains in various parts of body, especially knees, legs, and ankles. On admission he looked ill and was weak; form tall and body emaciated; weight, 142 pounds (weight three months ago 177 pounds). Appetite variable, ranging from poor to voracious; thirst excessive. Urine excessive, sugar present. Carbohydrates were excluded from his diet and symptoms treated as they arose. Later in the course of the disease the pains in legs assumed the character of a neuritis; vision became dim, without visible intraocular changes; teeth ached and became loose; loss of weight slow, but constant; bowels persistently costive. Symptoms of pulmonary tuberculosis appeared three weeks before death; insidious in onset and rapid in course, it was doubtless an important factor in the cause of death.

NECROPSY (1½ hours after death).—Body of a large adult, male, white; pale, emaciated, and with marked odor of acetone. Abdomen moderately distended with gas; rigor mortis not present. Belly wall contains a small amount of yellow fat. Adhesions between diaphragm and liver. Pleural cavities free from adhesions except near apex of right lung, which is the seat of numerous tuberculous processes. The upper lobe is consolidated and has two small cavities in the apex; middle lobe has several cavities containing about 10 c. c. of pus; lower lobe has a large cavity holding 100 c. c.; middle and lower lobes have extensive areas of functioning lung; weight, 1,330 grams. Left lung healthy; weight, 420 grams. Pericardial sac contains 75 c. c. of serous fluid. Heart normal; weight, 235 grams. Liver of normal appearance; weight, 2,110 grams. Gall bladder empty. Great omentum shriveled; fat nearly absent. Appendix curled in right iliac fossa; 12 cm. in length. Mesentery of large intestine contains a large number of fat-like nodules, homogeneous throughout, varying in size from a pea to a large marble. Pancreas tightly stretched across vertebral column feels hard like a cord; more fibrous than normal, but contains large areas of apparently normal tissue; duct much dilated, thick walled, retaining an open, fibrous canal when cross sectioned, patulous throughout; weight, 70 grams. Kidneys are large, soft, and fatty; cut surface has a nutmeg appearance; pyramids bulging and congested; weight of each, 320 grams. Spleen normal; weight, 200 grams. Urinary bladder has thickened walls and contains 100 c. c. of urine.

F. C. S.

H. W. A.

## II.

H. B.; age, 23; nativity, Michigan; admitted to the United States Marine Hospital, Detroit, Mich., August 26, 1904; died December 22, 1904.

**HISTORY.**—Family and personal history negative. Present trouble began two years ago with excessive thirst and appetite; his urine increased to 8,000 c. c. per day. Headache and abdominal cramps were experienced. Six weeks before admission a cough developed with nocturnal attack of dyspnea. Upon admission patient was weak and below his usual weight; feet and ankles swollen and oedematous; heart sounds normal; dullness in right supraclavicular space; moist râles below clavicle. Night sweats frequent. A strict noncarbohydrate diet was instituted with symptomatic treatment. The pulmonary condition rapidly grew worse. A month after admission the upper right lobe was consolidated; expectoration was profuse and swarming with tubercle bacilli. Two weeks later the middle and lower lobes showed extensive involvement while an area of infection became apparent at the lower part of upper lobe left lung. There were two attacks of syncope without loss of consciousness, but no other nervous disturbance.

**NECROPSY** (8 hours after death).—Body of an undersized young adult; emaciation extreme; feet swollen and oedematous. e Calvarium not removed. Panniculus 1 cm. thick, of pearly white color. Right pleural cavity obliterated by firm adhesions; right lung retains shape when removed, showing imprints of liver and ribs; weight, 2,325 grams. All three lobes completely consolidated and filled with cavities containing pus, the largest vomica extending from apex to fifth rib. Left pleural cavity free from adhesions except at apex. Left lung weighs 1,775 grams; both lobes show tuberculous processes, the upper completely consolidated and filled with cavities, the lower having an area of consolidation at upper border; the rest of this lobe, constituting the only pulmonary tissue approaching normal, is velvety and noncrepitant. Pericardium distended with 300 c. c. straw-colored fluid. Heart weighs 200 grams; all valves competent. Mediastinal glands enlarged, hard, and fibrous. Great omentum small, dark, and shriveled. Spleen soft; Weight, 225 grams. Liver normal in appearance; weight, 1,775 grams. Stomach dilated; thin walls with deficient muscular tissue; mucous membrane shows chronic inflammation. Intestines and peritoneum normal. Appendix 12 cm. long; mesoappendix extends to within 2 cm. of tip. Adrenals appear normal, except that the left is undersized. Left kidney weighs 200 grams; adherent capsule, otherwise normal. Right kidney weighs 160 grams; capsule adherent; no other evidence of disease. Pancreas weighs 70 grams; soft but presenting no striking abnormality. Mesenteric glands enlarged and fatty.

F. C. S.

H. W. A.

## DYSENTERY.

*Amebic.*

H. C.; aged 31 years; nativity, Tennessee; colored male; entered the Marine Hospital at Memphis, Tenn., on October 10 and died November 10, 1904.

**DIAGNOSIS.**—Amebic dysentery.

**HISTORY.**—Personal history, negative. Statement: About the 1st of October he experienced abdominal pain, with constipation, followed by profuse diarrhoea of a bloody character, with thirst and prostration. Present condition: The patient is much prostrated from frequent bowel discharges, most of which contain blood; the tongue is clean; appetite fair; abdomen, flat; some pain over splenic and sigmoid colon; external hemorrhoids. The first microscopic examination of the feces gave no amebæ only blood and polymorpho-nuclear cells in the debris. Local applications were made to the rectum until it would tolerate medicated fluids, when alternate injections of silver nitrate, 3 per cent, and ice-cold water were started on October 12, with salol and bismuth subnitrate by mouth. October 16 he had great abdominal pain in the pelvic region. The large injections also cause a great deal of pain. Stools are mucoid, but free from blood. Under the instrument there are seen a few large oval or irregular-shaped bodies, slightly granular and with nuclei, but without motion. This examination was made several hours after a large rectal injection of quinine sulfate, 1-100. Frequent examinations finally gave, on the 28th, large actively motile amebæ and numerous motionless oval forms. October 30,

patient has improved somewhat, eats fairly well, suffers less, and there is less bleeding.

*November 1.*—Condition not so good; general abdominal pain, especially over the pelvis; bowel movements, eight to ten during night, contain bloody mucus, in which there are numerous amebæ. The bowel is so irritable that the injections give intense pain.

*November 3.*—There developed during the past night great pain over the hepatic flexure of the colon, with temperature of 38° C.; pulse, 116; the abdomen is still flat; there is no evidence of hepatic abscess.

*November 4.*—The patient's condition is much worse, prostration extreme, pain general, but specially noted over the transverse colon and hepatic flexure. There is a question as to the cause of this pain, whether it is a perforation of the colon or simply a further invasion of the colon, the man's condition forbidding any surgical interference.

**NECROPSY** (held 8 hours after death).—Body of adult male, greatly emaciated; rigor mortis marked; abdomen slightly distended. Median incision: There is a low-grade peritonitis from a perforation of the upper surface of the transverse colon 3 cm. from its origin. About the perforation there is massed broken-down lymph, and the adjacent structures are covered with lymph. The lower portion of the cavity is comparatively clean. The small intestine is generally congested; the glands of its mesentery are enlarged. The ascending colon is congested; the splenic flexure bound down in fresh adhesions; the transverse is perforated; the splenic flexure and sigmoid are greatly thickened and covered with lymph. These organs show on section a mucosa riddled with amebic ulcers and burrowings, and at places in the ascending and transverse colon the mucosa is entirely destroyed; the muscularis is bare. At one of these bare places the perforation has taken place in the transverse colon; that of the cæcum is thickened and ulcerated; that of the ileum for 2 meters is thickened, congested, and ulcerated. The liver and gall bladder are macroscopically normal; the spleen is small and hard; the other organs normal. Scrapings from the ulcerated patches of ileum, cæcum, and colon gave, under the microscope, multitudes of nonmotile amebæ.

E. W.

#### EMPYEMA.

J. G.; age, 60; nativity, Ireland, admitted to United States Marine Hospital, Baltimore, Md., February 1, 1905; died February 17, 1905.

**HISTORY.**—Illness began twenty-four hours before admission, with cough and severe pain in left side of chest.

**CONDITION ON ADMISSION.**—Marked dyspnea; temperature, 38; pulse, 130; respiration, 30; almost total suppression of urine. Urinary examination showed much albumin and abundant hyaline and granular casts. Throughout the attack the evening temperature varied from 37.4 to 38.4, the morning temperature remaining normal or subnormal.

**PHYSICAL EXAMINATION.**—Dullness and diminished breath sounds in mid-axillary region of left side from the fifth rib downward, with patient in dorsal position; dullness disappearing when patient is turned on right side. Dullness and diminished breath sounds over lower third of left lung behind. Numerous moist rales heard above area of dullness.

**CLINICAL DIAGNOSIS.**—Chronic parenchymatous nephritis; left hydrothorax; edema of lungs.

**ANATOMICAL DIAGNOSIS.**—Chronic parenchymatous nephritis; purulent effusion in left pleural cavity; catarrhal pneumonia of upper lobe of left lung; edema of lungs.

**NECROPSY** (11 hours after death).—Rigor mortis very pronounced. Post-mortem lividity most marked over upper part of chest and face. Left lung is bound by dense adhesions to chest wall in region of fissure between upper and lower lobes and likewise to diaphragm below. When these adhesions were torn through, they allowed the escape of about 1000 c. c. of thin, watery fluid, yellow in color, and offensive in odor. This fluid was contained in a space bounded by the chest wall, diaphragm, lower lobe of left lung, and pleuritic adhesions. Upper lobe of left lung is firm and solid, dark red in color, and on section shows areas of catarrhal pneumonia and some edema. Bronchitis not marked. Lower lobe of left lung is completely carnified, dark red in color, compressed and airless. Left lung weighs 715 grams. Right lung very large; crepitates; somewhat edematous; otherwise normal. Weight, 870 grams. Pericardium contains small quantity of clear, straw-colored fluid. Heart somewhat hypertro-

phled; weighs 380 grams. Wall of left ventricle 2.5 cm. in thickness; heart muscle firm and red on section. Mitral valve admits two fingers; leaflets show thickening, especially marked at edges. Aortic valve practically normal, though there is slight thickening of cusps. Tricuspid and pulmonary valves normal. Spleen is normal; weighs 180 grams. Liver is somewhat larger than normal, pale red in color, normal on section, except for some fatty change. Left kidney weighs 200 grams; large, swollen, pale red in color, and shows evidences of parenchymatous changes. Capsule strips easily. Surface of section pale red in color. Very slight line of demarcation between pyramids and other structures. Right kidney shows changes similar to left; weight, 200 grams. The other organs are normal in appearance.

C. W. W.

## ENTERIC FEVER.

### I.

R. C.; age, 37; nativity, Ireland; admitted to service ward, Providence Hospital, Seattle, Wash., February 2, 1904. Died February 17, 1904.

FAMILY HISTORY.—Not obtainable.

PERSONAL HISTORY.—A hard drinker for ten years; yellow fever in Panama in 1894; malarial fever, Central America, two years later.

HISTORY OF PRESENT ILLNESS.—Patient entered hospital several days after the onset of the disease with severe bronchitis and frontal headache, complicated the following day by pleurisy without effusion. Dry friction rub was noticed from the mid-axillary line of the right side up to a point 8 cm. from the border of the sternum. On the fourth day a rose-colored eruption appeared on the abdomen; tenderness with gurgling was found in the right iliac fossa, and soreness in the region of the spleen; a diarrhea developed. From this time on the symptoms on the part of the nervous system predominated and the patient gradually sank, despite hydrotherapy and vigorous stimulation, and died on the fifteenth day.

NECROPSY.—Body 1.7 meters in height; much emaciated; rigor mortis and post-mortem lividity pronounced; pustular acne covering an area on back of thorax 22 cm. square. On section, panniculus and muscular coats of chest and abdomen are found remarkably thin. The colon is distended and the peritoneum injected in places. The stomach is enlarged and contains 50 c. c. of fluid. The gastric walls are markedly hyperæmic, giving the picture found in chronic catarrh of that organ. The liver is normal in size, weighing 2 kilos, and presents no microscopical changes. The spleen is considerably enlarged, weighing 300 grams, and, on section, is soft and hyperæmic. The adrenals, kidneys, and pancreas are normal.

In the intestine, ulceration of the solitary glands and the patches of Peyer in the lower ileum has gone on almost to the point of perforation in many places, while in others healing processes are well underway. The ulcerations are opposite the mesenteric attachment, and, at the lower end of the bowel, have coalesced to form large sloughing areas several centimeters square. The appendix and large intestine are not involved. Inspection of thoracic organs, in situ, show normal position. Pleura is adherent over anterior, lateral and posterior surfaces of right lung; bands of adhesions easily broken; upper lobe of right lung congested; marked anthracosis throughout. Cut section of left lung normal; pericardium and heart showed no pathological changes.

J. W. A.

### II.

A. C.; age, 22 years; nativity, India; male; white. Admitted to the United States Marine Hospital, Boston, Mass., August 1, 1904; died August 4, 1904.

The previous and family histories were not obtainable, as the patient was in a semicomatose condition when admitted to the hospital. Such of the present history as is here given was obtained from a shipmate of his own nationality.

PRESENT HISTORY.—Patient shipped as a coal-passenger on board the German S. S. *Schonfels* at Calcutta, India, about three weeks before his admission to this hospital. The vessel made one stop between Calcutta and Boston at a port in Algeria (name not known), to take on coal and water. Twelve days after leaving this port the patient, who had been apparently well up to this time, developed a high fever, pain in the chest and abdomen, diarrhea, anorexia, nausea, vomiting, occipital headache, and nocturnal delirium. Upon his admission to the hospital he was in a dull and apathetic condition, at times lapsing into a semi-

comatose state and low muttering delirium. He was much emaciated, teeth covered with sores, and the tongue coated with a heavy gray fur. The facies were apathetic and the conjunctivæ were subicteric. Clavicles were prominent, and the supra and infra claviclar spaces deep. The left lung was normal throughout. The right lung was normal anteriorly; posteriorly there was dullness, broncho-vesicular breathing and crepitant râles over the entire right base. The heart was normal; pulse markedly dicrotic. There were no rose spots. Liver was apparently normal. Spleen was markedly enlarged. There was some tenderness and gurgling on deep pressure in the right lower quadrant. The patient sank rapidly. His stools, which were of a semifluid, "pea-soup" character, separating into two layers on standing, increased in frequency, and, in spite of all efforts at stimulation, the patient died at 5.35 a. m., August 4, 1904.

NECROPSY (6 hours after death).—The body was that of a well-developed but greatly emaciated Hindu man 1.40 meters in height. Weight, approximately 40 kilos. Pupils considerably dilated; rigor mortis well marked. An incision was made from the point of the chin to the pubis, and the entire contents of the buccal, pharyngeal, cervical, thoracic, abdominal, and pelvic cavities removed in a single mass. The organs were then examined in situ before their removal, after which they were weighed and measured. The heart was normal, weighed 235 grams, was 0.085 meter in length, 0.09 meter in width, and approximately 0.03 meter in thickness. The left ventricle contained an ante-mortem clot, which extended into the arch of the aorta. The thoracic and abdominal aorti and their main branches were examined and found normal. The left lung was normal, weighed 330 grams, was approximately 0.15 meter in width and 0.08 meter in thickness. The right lung showed red hepatization, weighed 900 grams, and was approximately 0.18 meter in width and 0.15 meter in thickness. The tongue was thickly coated. The soft palate, tonsils, larynx, pharynx, œsophagus, stomach, and duodenum were normal. The lower portion of the jejunum and the entire ileum presented enlargement and infiltration of Peyer's patches. These varied in size from 1 cm. in length by 0.5 cm. in width to 10 cm. in length by 3 cm. in width. They were not ulcerated. The mesenteric glands presented enlargement throughout and varied in size from that of a coffee bean to that of an almond. The liver weighed 1,385 grams, and measured approximately 0.25 meter in its longest dimension by 0.20 meter in its greatest width. It was normal. The gall bladder was normal and contained about 20 c.c. of bile. The pancreas was normal, weighed 70 grams and measured approximately 0.20 meter in length by 0.03 meter in thickness by 0.04 meter in width. The spleen was considerably enlarged, much congested, and very friable. It weighed 220 grams and measured 0.18 meter in length by 0.10 meter in width by 0.05 meter in thickness. The urinary organs were normal throughout. Each kidney weighed 150 grams and measured 0.10 meter in length, 0.04 meter in width, by 0.03 meter in thickness. The brain was normal and weighed 1,235 grams.

C. E. S.  
W. C. R.

### III.

F. J. H.; age, 20; nativity, Norway; admitted to the marine wards of the German Hospital, Philadelphia, Pa., February 25, 1905, and died February 28, 1905.

HISTORY.—Family history negative. Previous illnesses: Had scarlet fever when a boy. Operated on for appendicitis five years ago. Denies syphilis. Had gonorrhea—not yet entirely recovered from last attack.

PRESENT ILLNESS.—Malaise and slight diarrhea for the past two weeks. One week ago he began to suffer with headache and pains in the back and extremities. Had some sneezing, but no cough. On admission patient's temperature was 40.8° C.

PHYSICAL EXAMINATION.—Face flushed, tongue coated and tremulous, edges red. Heart and lungs negative. Abdomen soft. Rose spots on skin of abdomen. From time of admission to time of death patient's temperature ranged between 40 and 40.8° C. On the evening of February 27 he became wildly delirious and was strapped in bed. During the temporary absence of the nurse the patient tore himself loose from his fastenings, pulled open the wooden shutters of a window near his bed, and, jumping through the pane of glass, fell a distance of about 8 feet to the roof of a building below. He died from shock the next day, at 8.25 p. m.

**NECROPSY.**—Body that of a well-nourished man. No rigor mortis; slight post-mortem lividity of dependent portions of body. Some contusions and superficial incised wounds of face and left thigh. No indications of fracture of bones. Thorax: Pleura glistening, transparent, and pale. Left lung: Weight 270 grams. Crepitant throughout, appearance normal. Right lung: Weight 330 grams. Crepitant throughout, appearance normal. Heart: Weight 320 grams. Its substance, valves, and blood vessels all appear to be normal. Abdomen: Peritoneum glistening. No adhesions. No exudate. Liver: Weight 2,020 grams. Surface smooth. Section surface shows slight congestion of its tissue. Spleen: Weight 420 grams. Consistency firm. Capsule normal. Section surface dark red, granular, firm. Right kidney: Length 12 cm., width 6.5 cm., thickness 2.5 cm., weight 140 grams. Capsule strips readily. Section surface glistening, red. Pyramids, calices, and pelvis normal. Left kidney: Length 12 cm., width 6 cm., thickness 4 cm., weight 170 grams; capsule strips readily. Section surface glistening, red. Pyramids, calices, and pelvis normal. Stomach: walls slightly thickened, mucous membranes congested. Pancreas: Weight 70 grams. Color light pink, consistency firm. Mesenteric glands very much enlarged and firm. Ileum: Lower 3 feet show marked enlargement of the solitary and agminated lymph follicles, the largest measuring from 10 to 12 cm. in the longest diameter. Jejunum appears normal. Cecum walls slightly thickened and congested. Appendix is normal. Retroperitoneal lymph glands are enlarged and firm. Brain: Weight 1,450 grams. Section surface of cerebrum shows slight edema.

F. I.

*With perforation.*

## I.

C. M.; age, 27; born in United States; admitted to the marine wards of the German Hospital, Philadelphia, Pa., November 7, 1904; died December 2, 1904.

**CLINICAL HISTORY.**—When admitted, the patient had been ill about a week with diarrhea, backache, malaise, and cough. Rose spots were present and his spleen enlarged. Widal reaction was positive on seventh day after admission. During the first two weeks in the hospital the course of his disease, although moderately severe, was uncomplicated. His temperature remained at 39 degrees, with but very slight remissions. At the beginning of the third week after admission (the fourth of the disease), his temperature began to descend and reached normal on November 29. During the first and second weeks there had been a moderate diarrhea, which commenced again at this time. During the afternoon of November 30 the patient complained of cramps in the abdomen. In the evening a severe attack of abdominal pain lasted fifteen minutes, and was accompanied by a fall in the pulse rate. The diarrhea continued. The next morning there was no pain, distension of the abdomen, or vomiting, and the condition of the patient seemed improved. His pulse, although quick, was of fair quality. In the afternoon there was a very slight rise in temperature, and the pulse continued quick and wiry. The abdomen became generally tender, and on the following morning the temperature rose to 39°, and the patient became partially comatose and died at 9 o'clock.

**NECROPSY** (thirty hours after death).—Body moderately emaciated. Rigor mortis present. The superficial muscles and fat were normal in color and texture. On opening the abdominal cavity the peritoneum was seen to be inflamed and covered with a purulent exudate. The whole bowel and mesentery was involved. The ileum showed typhoid ulceration of a not especially severe type and a perforation about 18 inches from the ileocaecal valve. The mesenteric and retroperitoneal glands were enlarged, soft, and necrotic. The liver, gall bladder, and gall ducts showed no abnormality. The spleen was moderately enlarged and soft. The right kidney was normal, the left kidney enlarged. The pelvis of the left contained pus, and the ureter was involved in the inflammatory process. The bladder and prostate gland, the adrenal glands, the stomach, and the pancreas were normal. The lungs and pleura showed no pathological changes. The heart and pericardium were also normal. There were no changes in the brain or spinal cord.

F. I.

## II.

H. L.; age, 23; born in Sweden; admitted to the marine wards of the German Hospital, Philadelphia, Pa., October 11, 1904; died November 1, 1904.

**CLINICAL HISTORY.**—Before his admission to the hospital the patient had been ill a month with headache, backache, anorexia, and malaise. For a week after admission his temperature declined, reaching normal on the seventh day. During the next week it rose steadily, reaching 40° on the twelfth day, and remaining near that point until his death, which occurred on the twenty-second day after admission. Rose spots were present when he was admitted and they reappeared during the second week. Near the end of the third week jaundice appeared with considerable tenderness in the region of the gall bladder. So well marked were the symptoms of cholecystitis that operation was considered, but finally decided against because of the entire absence of any rigidity of the muscles over the gall bladder. The jaundice disappeared almost entirely before death, but the tenderness remained and gradually increased as the signs of peritonitis developed. The peritonitis was not accompanied by distention. There was very little vomiting. No symptoms of shock were observed, and there was no drop in temperature. The Widal reaction was absent on the day after admission and again on the seventh day and the eighteenth. Examinations of urine several times during the patient's illness showed no abnormality.

**NECROPSY** (fourteen hours after death).—Body fairly well nourished. Rigor mortis present. The superficial muscles and fat were normal in color and texture. The stomach and pancreas showed no abnormal appearances. The spleen was enlarged and soft. The liver and gall bladder were normal, the latter containing fluid bile and the hepatic and common ducts being patulous. The kidneys and adrenal glands showed no abnormality. The parietal peritoneum was dull and congested, and the cavity contained about 1,000 c. c. of sero-purulent fluid. Fresh adhesions were present. Many ulcerations were found in the ileum, in the cæcum, and in the transverse colon. A perforation existed about 1 meter from the cæcum. The appendix was ulcerated and extremely necrotic. The mesenteric glands were much enlarged, some being 2 c. m. in diameter. The retroperitoneal glands were also enlarged. The brain was normal but for slight congestion and edema of the pia-arachnoid. Cultures from the peritoneal fluid near the perforation showed the presence of *B. Coli Communis*. The pleuræ and pleural cavities presented nothing abnormal. The lungs were dark in color, firm in consistency, and crepitation was normal throughout except in a number of small (2 mm. diameter), dark reddish airless areas in the lower lobe of each lung. The pericardium was normal. The heart was normal in size and position and the muscle and endocardium showed no changes. The edges of the leaflets of the mitral valve were much congested, slightly thickened and edematous. The arch of the aorta showed a few slightly thickened patches.

F. I.

## ERYSIPELAS.

J. D.; white male; aged, 42 years; a native of Ireland; entered the Marine Hospital, Memphis, Tenn., on March 20 and died March 31, 1905.

History of syphilis seven years ago, and of alcoholism. On the 17th he noticed a red spot, with swelling, near the right eye, which rapidly invaded the entire face. On admission the tissues of the face were immensely swollen, the eyes entirely closed, and the epidermis raised in numerous small bullæ. There was burning pain and extreme restlessness. Temperature 38.2° C.; pulse 100; urine negative; bowels loose; some bronchitis; mouth and teeth foul with sordes. Treatment stimulant and local. On the 23d the temperature became normal, the swelling decreased, allowing use of the eyes, and patient was cheerful and asked for food. This improvement continued until the 26th, when he became wildly delirious; perfectly conscious when called or spoken to, but at once lapsing into a rambling delirium, mainly of occupation. At this time the stools were noted to be darker than natural, but it was not possible to detect blood. On the 28th hemorrhage became pronounced; there was vomiting of a coffee-ground material, and a few small dark clots appeared in tarry stools. His radial pulse gave a reading of 135 mm. of mercury. Adrenalin chlorid, ergot, and subcutaneous saline were used freely. On the 29th he was somewhat improved; there was less delirium and less hemorrhage. The abdomen was



tympanitic and tender to touch. On the 30th the hemorrhages continued both from stomach and bowel, and death ensued on the morning of the 31st.

**NECROPSY** (6 hours post-mortem).—Body of adult white male, rigor marked, hypostasis about loins, hemorrhagic spot at site of hypodermoclysis, bloody froth from mouth and nares, abdomen swollen and tympanitic. Median incision; abdomen contained 2,000 c. c. of serum; the mesentery and intestine of normal appearance, the appendix bound down by old adhesions. The gastro-intestinal canal removed entire; stomach dilated and contained 1,000 c. c. of "coffee-ground" material; the mucosa pale with numerous dark points, no ulceration. The pylorus was free, the duodenum dilated and full of blood débris; the mucosa dark slate color, due to minute hemorrhages, from pylorus to ileum, where it became normal in appearance. The entire intestinal contents consisted of changed blood; the mucosa of large intestine of normal appearance. Urinary bladder contained 300 c. c. urine of albuminous reaction; the kidneys of 250 grams each were of normal appearance; capsules non-adherent, no retention cysts; cortex abundant and its markings well defined; left adrenal of normal appearance; the right adherent, its detachment showing a small cyst in its superior segment, and the gland in fibroid degeneration. The spleen was enlarged, 650 grams, mottled as to its surface, and on section very firm with macroscopic areas of fibroid change; the liver enlarged, 2,260 grams, was of bluff-brown color with adherent capsule, and of firm consistence; section showed a marked increase of the connective tissue framework and a pale yellow surface thickly studded with yellowish white bodies embedded in the parenchyma; these bodies varied in size from 2 mm. to 8 mm. in diameter, were firm with at times softened centers. The left lobe was extremely fatty and evidently contracted. The intralobular veins were dilated; the gall bladder normal, its ducts patent although surrounded by dense adhesions. The pancreas was abnormally hard and shrunken, the head buried in the mass of adhesions about the duodenum; in the tail there was a small retention cyst, but no stone in the duct of Wirsung. The heart was normal; the right lung firmly bound to parietes by old and dense adhesions, otherwise normal; the left lung adherent on posterior surface of upper lobe.

E. W.

## ANEURYSM.

### *Aortic.*

#### I.

P. G., white; age, 55; nativity, Pennsylvania; was admitted to the Marine Hospital August 5, 1904.

**HISTORY:** Family history, negative. Personal history, had measles, malaria, and gonorrhoea, followed by stricture of the urethra. Present illness, about one year ago noticed pain in occipital region of head, which lasted four or five months. Then noticed alteration of voice. "His throat became blocked about same time." Had difficulty in swallowing. "About three months ago had palpitation of the heart." The symptoms for which he seeks treatment are his aphonia and the "clogging" of his throat. Status præsens: Inspection showed tumor 3 inches in diameter seen over right side of manubrium. Tumor has visible pulsation synchronous with heart beat. Palpation: Pulsation felt in tumor not expansile in character, but rather of a heaving nature. Tracheal tug present. Auscultation: Soft-blowing murmur heard in second right intercostal space and over right subclavian artery. Pulse: Left radial much stronger and fuller than right. Right radial delayed and small. Left carotid pulse smaller and weaker than right.

**DIAGNOSIS.**—Saccular aneurysm of arch of aorta. While in the hospital patient grew continually worse. Voice was almost entirely lost. He could swallow only liquid nourishment. Solid food produced pain when swallowed. Dyspnoea was continuous and attacks of orthopnoea, during which the patient would gasp for air and become cyanotic frequently. Later he was able to breathe only when sitting up, and occupied this position continuously. He died September 6, 1904, at about 4 a. m.

**NECROPSY** (12 hours after death).—Build, small; no scars, no deformities. Hair abundant on head, face, and chest. Hypostasis present over back of trunk, thighs, arms, and neck. Rigor mortis present throughout, body heat absent. Nutrition poor, body emaciated. Panniculus and musculature small. Sclera clear, pupils equal; right sterno-clavicular joint more prominent than

left, bulging more and extending higher. Thorax fairly well developed and symmetrical except for above joint. Abdomen on level with ribs and tympanitic on percussion. Scrotum hypostatic. Superficial veins of thigh and lower abdomen prominent. On abdominal section intestines protrude from incision. Intestines dry and somewhat glistening. Panniculus pale yellow. Liver extends to costal margin in right nipple line. Appendix apparently normal. Internal surface of manubrium on right side eroded to a depth of 1 cm. over an area 3 cm. in diameter. Left lung: Pleuræ adherent posteriorly and at base; adhesions easily torn; anthracosis marked; congested and edematous. Pleuræ thickened in areas. Right lung: Adherent posteriorly by easily torn adhesions. Similar otherwise to left. Great vessels: Ascending aorta considerably dilated. Saccular aneurysm size of small apple extends from upper surface of the beginning of the arch of the aorta just inferior to the opening of the innominate artery. The innominate artery divides into common carotid and subclavian rather close to the aorta, and the subclavian artery is crowded and compressed by the aneurysm around which it curves. Between left common carotid and subclavian another aneurysm about two-thirds as large as the first comes off of the aorta and is so situated that when filled with blood it compresses the left carotid against the trachea and also itself presses against the trachea and œsophagus. The descending aorta just below the left subclavian artery is also dilated. The inner surface of the entire aorta, but especially that of the ascending aorta and arch, is covered with atheromatous plaques. Both aneurysms contain several layers of laminated clot. Heart: Left ventricle dilated and practically filled with mixed clot. Right ventricle also dilated and partially filled with clots. Both auricles contain mixed clots. The aortic and mitral valves are roughened and slightly thickened.

DIAGNOSIS.—Atheroma of large arteries, multiple saccular aneurysms of arch of aorta, dilatation of aorta, dilatation of heart, congestion and œdema of lungs.

J. W. T.

## II.

C. D.; aged 49 years; nativity, Ireland; admitted to the United States Marine Hospital, San Francisco, Cal., September 7, 1904; died March 20, 1905.

HISTORY.—Patient on admission had a swelling in the upper anterior part of the chest on the right side near the sternum, which gave all the symptoms of aneurism of the ascending aorta and arteria innominata. He had cough, dyspnoea, pain, difficulty in swallowing, delayed pulse in the right radial artery, harsh voice, tracheal tugging, and vertigo. Expansile pulsations were both visible and palpable over the tumor. The patient lived a fairly comfortable existence until December 15, 1904, although he was unable to lie down or walk to any great extent. In December the pain gradually increased, and it was necessary to give him morphia once or twice daily. He, however, did not at any time take much of this drug. He occasionally had attacks of severe dyspnoea, and in one of these attacks he died at 7.30 a. m., March 20, 1905.

NECROPSY (4 hours after death).—Length of body, 170 cm. Large scrotal hernia on right side. A tumor 8 cm. by 7 cm. has eroded through sternum end of the right second rib. The skin over this tumor is intact. Brain, weight 1,235 grams, tissues normal, arteries at base apparently normal. On opening the chest the tumor is ruptured and it is found to be an aneurism involving the ascending aorta, transverse aorta, and arteria innominata. The heart is small, the thickness of wall of the right ventricle being 0.75 cm., and the thickness of wall of left 2 cm., valves normal. Many atheromatous plaques are present on the wall of the aorta near the heart. The weight of the heart, aneurism, and attached vessels is 700 grams. Both pleural cavities contain serous fluid, and both lungs are bound to the chest posteriorly. Left lung: Weight 560 grams, floats in water, crepitant throughout, serous discharge exudes on section, the base of this lung is firmer than its upper portion and presents a yellowish gray color on section. Right lung: Weight, 425 grams, tissue normal. Spleen: Weight, 110 grams, trabeculae prominent, tissue firm. Right kidney: Weight, 165 grams. Left kidney: Weight, 150 grams, tissue of both normal. Liver: Weight, 1,450 grams, much blood exudes on section, tissue of a brown color tinged with yellow. Gall bladder contains two small gall stones, ducts patulous. There are a few fecal concretions in the lumen of the appendix. Stomach, intestines, pancreas, and other tissues normal.

W. G. S.

## III.

B. B.; age, 46 years; nativity, Nova Scotia. Admitted to the United States Marine Hospital, Boston, Mass., May 17, 1904; died August 8, 1904.

HISTORY.—Father and mother dead, cause unknown. One brother drowned, one died of smallpox; one brother and one sister alive and well.

PREVIOUS HISTORY.—Soft chancres twenty years ago. On February 14, 1903, this patient was admitted to this hospital under the diagnosis of aneurism thoracic aorta (fusiform). He was discharged April 1, 1903, greatly improved by the Tuffnell treatment. He returned to the hospital on April 9, 1904, and remained until May 7, 1904. At this time very little trace could be found of the aneurism, and as the aortic stenosis and regurgitation was the chief trouble from which he suffered, he was so diagnosed. He was discharged considerably improved, and reentered the hospital May 17, 1904. At that time complained of dyspnea upon exertion, considerable hoarseness, and frequent urination.

PHYSICAL EXAMINATION.—The physical examination showed on inspection good physical development and nourishment. Mucous membrane of the tongue coated with a whitish fur; lips somewhat cyanotic; slight pulsation on right side of neck. The respiration was rapid and shallow; expansion poor. Vocal fremitus was increased upon the upper portion of the right side. There was dullness on percussion in both supra-clavicular spaces, extending to the second interspace on the right side. Over the same area there was prolonged expiration, bronchial breathing, and increase of vocal sounds. The apex beat of the heart was 2 cm. to the right of the left axillary line in the seventh interspace. The point of maximum cardiac intensity corresponded in position to the apex beat. Cardiac dullness extended from the second interspace in the median line downward and to the left 1 cm. beyond the apex beat. There was absolute dullness from the fourth rib to the apex. On auscultation there was an aortic murmur, diastolic in time, heard best in the second right interspace and transmitted toward the apex; pulse 96; high tension and of water-hammer quality. Liver dullness somewhat increased. The abdomen was otherwise normal except for a large left oblique inguinal hernia and pulsation in the epigastric region.

NECROPSY (7 hours after death).—The body was that of a man 1.73 meters in height, weighing approximately 90 kilos, and apparently about 50 years of age; hair closely cropped, and gray about the temples; moustache gray; mammary hair abundant and gray; face swollen and cyanotic. Upon the anterior surface of the right forearm there was tattooed a crucifix surmounted by angels. The entire body was very oedematous, the lower limbs being especially so, and covered with blebs, varying from 3 cm. to 14 cm. in diameter. Rigor mortis well marked; posterior sughillations abundant; also ecchymotic spots upon thighs and legs; subcuticular fat present in considerable amount. The thoracic cavity contained about 2,000 c. c. of blood stained serum; the abdominal cavity about 400 c. c. of serum of the same character. The pharynx and larynx showed considerable injection. The vocal cords were much relaxed and somewhat eroded at their free borders. The trachea contained a small amount of blood serum. The right lung was 25 cm. in length by 25 cm. in width by 6 cm. in thickness and weighed 550 grams; the left lung was 24 cm. in length by 15 cm. in breadth by 5 cm. in thickness and weighed 420 grams. Both were slightly adherent at their bases and showed chronic passive congestion. The heart was 18 cm. in length, 18 cm. in width, and 7 cm. in thickness; both ventricles contained ante-mortem clots of large size. All the valves were apparently somewhat dilated. The aortic valves were considerably shrunken, and the orifice was represented by a hard ring narrowing the opening two-thirds of its normal size. The ascending, transverse, and descending portions of the arch of the aorta were greatly dilated. At the beginning of the thoracic aorta there was a sacculated aneurism 6 cm. in length by 5 cm. in width by 4 cm. in depth. Its cavity was almost entirely filled by a laminated clot of firm consistency. The aneurism had slightly eroded the bodies of the fourth, fifth, and sixth dorsal vertebræ. The aorta and all of its main branches, from the external carotid to the external iliac, was examined and found to contain spots of calcareous degeneration varying in diameter from 0.5 cm. to 3 cm. The tongue was covered with a whitish fur; the circumvallate papillæ were very indistinct and almost obliterated. The esophagus, stomach, and intestines were normal. The liver was 26 cm. in length by 17 cm. in width by 10 cm. in thickness, weighed 1,700 grams, and showed chronic passive congestion. The gall bladder was normal and contained 10 c. c. of bile. The common

bile duct was patent. The pancreas was 23 cm. in length by 4 cm. in width by 1.5 cm. in thickness and weighed 130 grams. The duct of "wirsung" and the valve of "vater" were patent. The spleen was 9 cm. in length by 9 cm. in width by 3 cm. in thickness, weighed 150 grams, and presented chronic passive congestion. The suprarenal capsules were degenerated and weighed 15 grams each. The right kidney was 13 cm. in length by 7 cm. in breadth by 3 cm. in thickness and weighed 220 grams; the left kidney was 14 cm. in length by 8 cm. in breadth by 4 cm. in thickness and weighed 300 grams. Both presented chronic passive congestion. Both ureters were patent and the bladder was normal. There was a slight enlargement of the prostate gland. The brain was not examined.

C. E. S.  
W. C. R.

#### IV.

D. C.; aged 38 years; colored, and a native of Arkansas; entered the Marine Hospital at Memphis, Tenn., on July 6, and died July 20, 1904.

Family history negative; presents history of syphilis and alcoholism. Present illness began three months ago, with cough and pain in the left chest, and he has lost 40 pounds in weight. Present condition: There is a constant stridulous cough, and copious frothy expectoration; some dyspnoea, and an anxious facial expression. The heart action is accelerated, but the sounds are clearly defined. There is no murmur whatever. The left lung is generally edematous, auscultation giving abundant fine and coarse râles, with sybillant sounds resembling those of spasmodic asthma; the upper lobe is quite dull on percussion, the lower lobe slightly emphysematous at angle of scapula. Expansion is diminished on the left side and vocal fremitus increased. The right lung shows a diffuse bronchitis and emphysema. Urine normal. Frequent cover slip examination of sputum gave negative results as to tubercle bacilli. During the treatment the laryngeal cough demanded most attention, the paroxysms at times being extremely severe. At the end of the second week in hospital during one of these paroxysms a fatal hemorrhage occurred from the lungs.

NECROPSY (fifteen hours after death).—Body of adult colored male of fair development; rigor present; a bloody froth issues from nares. Median section shows abdominal organs of normal appearance. Upon the removal of the anterior thoracic wall the lungs remain attached to parietes through old adhesions. On the left side the pleural sac is obliterated by a more recent pleuritis; the left lung, removed entire, is of full size and practically solid. Incision into the upper lobe shows a hepatization of the tissue undergoing purulent change; there is no unchanged tissue in this lung, although the lower lobe is not so densely infiltrated as the upper. The larger bronchi contain recent blood clots. On the right side old adhesions bind the upper and mid lobes to the chest wall, but the lower lobe is free. The lung is emphysematous, the alveoli are generally dilated and remain distended. At the root of the lungs the glands are enlarged, two of them on the left as large as English walnuts. The heart is slightly enlarged; the aorta in situ is sacculated, but there is no aneurism apparent. On removing the heart and aortic arch, however, there is encountered a mass of tissue posterior to the arch and attached to the trachea. This, removed entire, is found to be as large as the tightly closed hand, and consists of the posterior wall of the transverse portion of the arch firmly adherent to the trachea by dense adhesions, and of two large lymphatic glands. In the posterior wall of the arch there is an opening as large as a dime leading into this mass, which further dissection shows to be an aneurism of small caliber, with very thick walls, save at its point of pressure against the trachea. The sac is practically full of laminated clot; the fullest possible content of the aneurism is 50 c. c. At the point of contact with the trachea the structure has been disintegrated by the pressure, the rings necrosed, and perforation into its lumen established. It is from this perforation that the fatal hemorrhage occurred. In this case the vessels arising from the arch were only two in number—two innominate, right and left—and were in nowise connected with the aneurism. The absence of the objective symptoms, thrill, and bruit is also explained by the condition of lamination of the sac.

E. W.

## V.

J. W.; aged, 47; a native of Canada; entered the Marine Hospital, Memphis, Tenn., on April 19, and died on July 30, 1904.

History of syphilis and addiction to alcohol. Family history negative. Present illness commenced three months ago with pain in the chest on left side just about the nipple; pain in left shoulder, greatest at night and some dyspnoea. One month ago he commenced to cough frequently and his voice began to fail.

PHYSICAL EXAMINATION.—Veins of chest wall prominent; heart's apex beat is at a point below the nipple; there is a murmur with first sound, heard loudest at apex, also heard in axilla and at angle of scapula; the second sound is exaggerated. On June 14 the condition presented was that typical of aneurism of the arch of the aorta, with pressure upon the recurrent laryngeal nerve, with the attendant laryngeal spasm, cough, dyspnoea, etc. Death occurred from rupture of the sac, with internal hemorrhage, on July 30, 1904.

NECROPSY (held eighteen hours post-mortem).—Body of adult male, much emaciated, with hypostasis of the loins, and some rigor mortis. There is a descended left inguinal hernia. Median incision, the abdominal contents normal. Anterior thoracic wall removed; the pericardium is normal; the sac contains 50 c. c. of fluid; the heart is enlarged; there is sacculation of the aorta and from the inferior surface of the transverse portion of the arch an aneurism extends, enveloping all the structures at the base and pressing outward and downward into the structure of the left lung. The extensive sac, 7 by 20 cm., is filled almost completely with laminated clot, only a very small channel continues through it to the point of rupture into the left pleural sac. The entire upper lobe of the left lung is involved in the aneurism, the lung being compressed and carnified, and forms the outer and inferior portion of the sac. The pleural sac is full of dark recent clot. The intima of the arch of the aorta is eroded at many points and studded with antheromatous plaques. The recurrent laryngeal nerve is lost in the adhesions about the sac.

E. W.

## VI.

J. D.; colored; age, 42; nativity, Massachusetts; admitted to the marine wards of the German Hospital, Philadelphia, Pa., November 10, 1904, and died December 24, 1904.

HISTORY.—Family history negative. Previous illnesses: ordinary diseases of childhood. Had syphilis about 20 years ago. In December of 1903 was treated at this hospital for aneurism of arch of aorta; since then aneurism has given him little trouble. Present illness began five days before admission. Patient awoke with a severe chill and with an intense pain in lower part of left chest. Has a cough and rusty muco-purulent expectoration.

PHYSICAL EXAMINATION.—Lungs: Diffuse dullness over lower lobe of left lung, with tubular breathing and coarse râles. Heart: Bulging præcordia, expansile pulsation, synchronous, with apex beat. Mitral systolic murmur at apex. Marked bruit and thrill over præcordial bulging. Abdomen, negative. From date of admission to time of death patient had an irregular fever, at times hectic character, with diurnal variations of two or three degrees C. Examinations of the blood for the plasmodium malarie and of the sputum for the tubercle bacillus were negative. During the last four weeks of his illness the patient had considerable pain over area of pulsation in præcordial region and frequent attacks of copious hæmoptysis, the blood expectorated being bright red. He died from exhaustion at 4.45 p. m., December 24, 1904.

NECROPSY.—Body that of an emaciated negro. Height, 176 cm.; weight, 56 kilos. Rigor mortis, moderate. Thorax: Left lung is bound down by fibrous plural adhesions throughout. Its lower lobe is the seat of many small caseous looking abscesses. Right lung, some hypostatic congestion, otherwise apparently normal; weight, 700 grams. Heart: The left ventricle is somewhat hypertrophied, otherwise this organ is normal. Springing from the ascending portion of the arch of the aorta is an aneurism, which communicates with the aorta through an opening which measures 4.5 cm. in diameter and extends nearly to the origin of the innominate artery. The aneurismal sac arises from the anterior and lateral surface of the ascending aorta, and projects anteriorly and to the left. It is bound to the left lung by dense fibrous adhesions, and has eroded the second and third ribs anteriorly. The sac measures

13 to 14 cm. in diameter, and contains in addition to fluid blood laminated clots. The wall of the sac consists of the lung tissue directly, with only the interposition of a thin layer of connective tissue. The aorta elsewhere is markedly atheromatous and shows several secondary dilations near the neck of the aneurism. The portion of the left lung near to the sac of the aneurism is made up of tissue that is airless, firm on section, yellowish in color, granular, and is the seat of numerous yellowish areas which closely resemble degenerated tubercles. The peribronchial glands are enlarged, anthracotic, and contain areas of caseous degeneration. Abdomen: There are a few peritoneal adhesions in the ileo-cæcal region. The liver weighs 1,400 grams, the surface is smooth, and its substance on section is light reddish yellow in color. Spleen weighs 190 grams, consistency is soft, and the capsule is thickened and wrinkled. The right kidney weighs 150 grams, and the left 200 grams. Both appear to be normal. All the other abdominal viscera are normal. Brain and spinal cord both normal.

F. I.

## VII.

H. B., aged 23, a native of Tennessee; colored; entered the Marine Hospital at Memphis, Tenn., on March 1, and died on June 3, 1905.

DIAGNOSIS.—Aneurism of the arch of the aorta.

Family history, negative. Personal history: States that he has always been pretty well, except an attack of tonsillitis when he was about 18 years old, followed by enlargement and suppuration of the glands of the neck. Has never had syphilis, nor been addicted to alcohol. He is an athlete, and played "ball" for several years semiprofessionally. Present illness commenced during past winter with cough and slight shortness of breath, some sore throat, and hoarseness, with enlargement of glands in the neck. Present condition: He is a well-developed man of athletic appearance; facies anxious, brow covered with sweat. There are spasmodic fits of coughing of a high-pitched stridulous note, during which the larynx seems completely closed, the face becomes cyanosed, and the sweat breaks freely forth on forehead. These spasms commenced during January and have become progressively worse. Expectoration copious, and he complains of pain throughout the chest. Physical examination shows several old scars in the triangles of the neck from old suppurative glands; there are now several glands enlarged in the inferior carotid triangles; the entire anterior surface of the neck is swollen and this extends to the supraclavicular tissues; the chest is expanded, respiratory excursions very limited; there is some edema with liquid bubblings in the larger tubes; the noises are so great that all finer sounds are obliterated on both sides. Percussion gives full, deeply sonorous note in the upper and anterior portions of the chest, but posteriorly there is the high pitch of static edema. The hand laid flat over the heart area conceives no impulse other than the heart beat; the stethoscope elicits a clear, mitral closure with fair impulse, the apex 3 cm. below the left nipple; at the base over the right second interspace there is a systolic swish, soft and far-away, which is transmitted slightly into the right carotid and along the carotid arch. The fingers placed deeply into the interclavicular notch detect only a moderate impulse. Percussion gives normal heart area with a high pitched note over the sternum at the third cartilage, which continues to the right and upward to the first costal juncture; this dullness is scarcely discernible to the left of the sternum. The carotids beat with unequal force and this is felt in the radials, the right giving 120 mm. of sphygmomanometric pressure, and the left 137 mm. From these facts the above diagnosis was made, although it was difficult to eliminate the possibility of bronchial gland enlargement and consequent pressure upon the trachea with encroachment upon the aorta or innominate, causing the systolic murmur, or even the association of such enlargement with slight aortic valvular disease. The marked difference in the metric reading of the radials, was in favor of aneurism over simple glandular enlargement about the roots of the lungs. Gelatine was given freely by the mouth, antispasmodics used freely, and nutritious diet given. It was a history of continuous suffering, with failure of the circulation and death from exhaustion.

NECROPSY (held 15 hours after death).—Body of adult male of fine proportions, emaciated to a degree; some edema of lower limbs, some swelling about the neck, rigor marked. Median incision; all organs and tissues of abdominal cavity normal in appearance. The lungs fill the chest cavity, the right pleura is adherent in its upper anterior portion, the right lung presents a lower lobe

sodden in edema, yet floating in bath, the mid and upper lobes immensely inflated; the larger tubes are filled with fluid mucus slightly blood tinged, their mucosa is hemorrhagic in spots. Left pleura contains 150 cc. of clear fluid, the left lung is edematous in its lower lobe posteriorly, and in extreme emphysema elsewhere. At the root of the left bronchus there is an enlarged lymph gland, 5 cm. by 3 cm., resting against it and pressing backward against a mass extending upward. This mass occupies the anterior mediastinum more to the right than to the left of the sternum. The pericardium contains 300 cc. of fluid; the heart is a little enlarged and continuous with the mass above. The heart released from vessels below and dissected out with the mass. On removal it is found that this is composed of an aneurismal sac almost completely filled with laminated clot. It is 7 cm. long and 4.5 cm. wide, of an oval form. Dissection shows the origin of this sac to be an oval opening in the right wall of the ascending aorta 2.5 cm. long, the wall pouching outward and bearing with it the ostium of the innominate, which is thus fed from the contents of the aneurism. The sac is composed of the greatly stretched aortic wall reinforced by plastic attachment of the right pleura. On its upper left surface the sac is very thin and is composed mainly of laminae of blood. The mass pressed downward and backward, and rested on the lower trachea and esophagus, thus accounting for difficult deglutition during the last days of life. The pressure downward involved the posterior surface of the arch and the recurrent laryngeal nerve. The sac as filled with clot would accommodate about 50 cc. of fluid blood, and this accounts for the very soft murmur over the base and the diminished pulse force on the right side, as shown by the sphygmomanomet.

E. W.

#### GUNSHOT WOUND.

##### *Of spinal column.*

A. G. J.; white; age, 27; American; admitted to service ward, Providence Hospital, Seattle, Wash., June 3, 1904; died July 19, 1904.

HISTORY OF PRESENT ILLNESS.—Patient was assaulted and shot while leaving his vessel on the evening of June 1. On admission to hospital five gunshot wounds presented; two, evidently of entrance, in the left groin just above Poupart's ligament; another in the upper portion of the right deltoid muscle, with wound of exit beneath the right shoulder blade, and one to the left of the spine of the ninth dorsal vertebra. Complete paraplegia existed below the latter wound, with incontinence of urine and feces. Severe pains were complained of throughout a zone about 4 cm. in width and completely encircling the body just above this point. Under chloroform anaesthesia the wound in the spine was probed, and a bullet, considerably flattened on the nose, was extracted from the overlying muscles. The abdominal wound was not entered, but dressed under the most careful asepsis. Almost immediately trophic disturbances set in, and an enormous bed sore formed over the sacrum. Persistent and uncontrollable vomiting of decomposed blood began on July 15, accompanied by agonizing frontal headache. On the 16th the patient became delirious; the temperature, which, from the beginning, was slightly above normal, rose to  $39\frac{3}{4}^{\circ}$  C., and edema of the lungs further complicated the case. He died on the evening of the 19th, without regaining consciousness.

NECROPSY.—The necropsy was made by the coroner of the city, the case coming under his jurisdiction. The body showed extreme emaciation, and presented the wounds above noted all practically healed, except that of the spinal column. On enlarging the opening here, it was found that the ball had pierced the body of the ninth dorsal vertebra, severed the spinal cord, and rebounded, being found very superficially, as stated. The spinal cord below this point was completely disintegrated and the canal filled with pus. Above the lesion the cord showed an acute central myelitis extending to the fifth dorsal segment. Section of the abdomen showed a stricture of the sigmoid flexure, scarcely admitting an ordinary lead pencil; evidently of long standing. Further examination of the bowel was negative. The lungs were edematous throughout, with intense hypostatic congestion posteriorly. The heart muscle was softened over the left ventricle, and section showed foci of infection here and in the wall of the left auricle. The calvarium was not removed, sufficient evidence having been secured to justify a finding of death from gunshot wound.

J. W. A.

*Of abdomen.*

J. E.; age, 25 years; colored male; was brought into hospital by ambulance at 10 a. m. of July 3, 1904; died July 5, 1904.

**HISTORY** (of shooting at 2 a. m.).—Had been taken to General Hospital, where a lacerated wound of the throat entering the larynx had been sutured. The patient claiming the aid of the service, he was transferred to the marine hospital, Memphis, Tenn.

**PRESENT CONDITION.**—He is very weak; pulse, 120; cold sweat over body; pupils dilated. Breathing is noisy; the wound in larynx permits egress of some air into the tissues. The connective tissue about the wound in neck is infiltrated with blood and air; this emphysema extends into the infraclavicular spaces and over the chest. There are two gunshot wounds in the left side, both of entrance. There are no wounds of exit. One is on the anterior axillary line 20 cm. from the fold of the axilla and penetrates the chest wall between the ninth and tenth ribs. The other is on the posterior axillary line about 27 cm. from the post axillary fold, and penetrates the abdomen. He is informed of the imperative necessity to open the abdomen in an effort to save his life and assented. Chloroform, anesthesia. Median incision; abdomen contained considerable free blood; the sac of the great omentum distended with coagulum, which was removed. Stomach found perforated. The missile entering on posterior surface 3 cm. from its inferior border immediately below the entrance of the esophagus and making its exit to the right of the first wound and above it. These were closed with silk sutures reinforced with catgut Lembert sutures. The coil of small intestine overlapping the splenic flexure of the colon was found perforated, and these wounds closed with Lembert sutures. The missile passed through the colon, entering at the inner and under surface of the flexure and making its exit through the posterior wall of the transverse colon—a long contused wound. These wounds were closed with Lembert silk sutures. Palpation discovered a perforation of the liver at the under surface of the left lobe near its center. Inspection showed but little oozing from it. Since the missile had been located under the skin between the sixth and seventh ribs, it was assumed that it had passed through the liver, emerging from the summit of the right lobe. Abdomen cleansed and toilet made with thorough and through silk worm gut. Reaction fairly good. During the next day the wound of the larynx gave much pain and there were evidences of commencing cellulitis. At midnight there was sudden collapse, from which he did not rally, and died at 2 a. m., July 5, 1904.

**NECROPSY.**—Body of adult colored male, 172 cm. long; rigor mortis present; pupils dilated; sanious discharge from nostrils. Across the front of the neck there is a transverse irregular wound of the skin, closed with silkworm gut sutures. Over the entire front of the neck and the subclavicular area of the chest the skin is suffused, and the subcutaneous areolar tissue is emphysematous. In the median line of the abdomen, from the ensiform cartilage to the umbilicus, there is a recent incised wound closed with silkworm gut sutures. The abdomen is swollen and tympanitic. In the left side, 20 cm. from the axilla, along the anterior axillary line, there is a pistol-shot wound of entrance through the skin between the ninth and tenth ribs, perforating into the abdomen. In the same side, 27.5 cm. from the axilla, along the posterior axillary line, there is a second pistol-shot wound of entrance through the skin, perforating into the abdomen. Body opened by median incision from thyroid cartilage to symphysis pubis. The connective tissue of the neck and the tissues generally about the transverse wound were infiltrated with blood and air (emphysema), this emphysema extending beneath the upper portion of the sternum, into the anterior mediastinum, and into the connective tissue of the anterior chest wall. The wound extended into the trachea, between the upper ring and the cricoid cartilage, permitting before death the passage of air into the surrounding tissues. Throughout this area of infiltrated tissue there was evidence of commencing suppuration, which could readily, in the absence of gunshot wounds, have caused death. The abdominal cavity contained a small quantity, 240 c. c., of bloody serum. The great omentum is free. The small intestine is perforated at two points. These perforations are closed with silk sutures. There are two perforating wounds in the colon, one in the descending and one in the transverse colon. These are closed with silk sutures. There are two penetrating wounds in the stomach, one of entrance in its posterior surface 3 cm. from its inferior border and directly below the cardiac orifice, and one of exit in the posterior wall to the right of the first and above it. These perforations



are closed with silk sutures. On the under surface of the left lobe of the liver, about its center, there is a penetrating wound of entrance, and on the anterior and superior surface of the right lobe there is a wound of exit, and from these wounds blood still oozes. Adjoining this wound of exit there is a penetrating wound of the diaphragm and diaphragmatic pleura, and continuous with it there is one of the soft parts between the sixth and seventh ribs, and a .32-caliber ball is found just under the skin. From the second wound in the left side the course of the ball is traced by the hemorrhagic extravasation in the connective tissue about the lower border of the left kidney and behind the descending colon, but the ball was lost in the mass of muscles to the left of the vertebral column. This ball did no injury to the intestines. Entering between the ninth and tenth ribs, the first ball passed through the left lateral wall of the descending colon near the splenic flexure, ranged upward, outward and to the right and perforated the transverse colon on its posterior wall, making a glancing wound 1.8 cm. long, and then entered the posterior wall of the stomach and passed out of the stomach through the same wall 3.5 cm. to the right and near its superior border; then into the left of the liver, ranging upward, outward, and to the right, emerging at the summit of the right lobe; then penetrating the diaphragm and muscles of right chest the ball lodged under the skin between the sixth and seventh ribs, midway between the anterior axillary and the mammary lines. Either of these gunshot wounds may have proved independently fatal. The wound in the neck was of a most serious nature, but need not have been necessarily fatal. It is assumed that it contributed largely to the fatal termination, because of the commencing suppuration in the extensive area of emphysema. Death was due primarily to shock and hemorrhage from the perforating gunshot wounds.

E. W.

## HEART.

### *Fatty degeneration of*

#### I.

S. D. C.; age, 49 years; nativity, Cape Breton; admitted to the United States Marine Hospital, San Francisco, Cal., September 10, 1904. Died September 12, 1904.

**HISTORY.**—The patient was admitted for malarial fever. No malarial parasites were found in the blood, but he had been having chills for the past five weeks. Heart and lungs were apparently normal, pulse 80, good volume and tension. Liver and spleen were enlarged. No albumen, sugar, or bile were present in the urine. At 6 p. m. of the day of admission his temperature was 38.2° C., but the next morning it was 36° C. At 4 p. m. of September 11 he was suddenly taken sick while sitting in his chair. He was immediately placed in bed, but died within a few moments. The heart stopped beating before respiration ceased.

**NECROPSY** (18 hours after death).—Length of body, 5 feet 8 inches; rigor mortis well marked, tissues well nourished, numerous scars on lower third of nose caused by cicatricial tissue. Brain: Weight, 1,325 grams; arteries at base of brain show numerous small yellow nodular thickenings. No hemorrhage or congestion found on section of brain tissue. Thickness of abdominal wall 2.5 cm.; fat, deep yellow color, muscular tissue bright red. Pericardium contains much fat in its tissues. Heart: Weight, 437 grams; tissue soft and mushy, the organ flattening out when laid upon the table. A large quantity of fat surrounds the heart and extends down between its muscular fibers. Cavities of the heart contain blood, but no clots; valves normal, except mitral, whose leaflets are thickened and nodular. The walls of the coronary arteries are thickened. The aorta is of a yellowish white color, the inner coat being slightly roughened. The lungs are normal. The spleen weighs 687 grams, color dark brown, pulp very soft, breaks easily in handling. Left kidney: Weight, 172 grams; cortical substance thin, color grayish mottled with yellow, pyramids prominent. Right kidney: Weight, 146 grams; tissue exhibits same changes as left kidney. Bladder empty, generative organs negative. Liver: Weight, 3,075 grams; cuts with increased resistance; blood exudes upon section; color dark red. Stomach contains a small quantity of soup-like fluid; no congestion of its walls; small and large intestine negative. Great vessels in apparently normal condition.

W. G. S.

## II.

W. J. W.; age, 62; Maine; entered service ward, Providence Hospital, Seattle, August 20, 1904; died August 28, 1904.

**HISTORY.**—About a month previous to admission patient began to suffer from pains in the epigastric region, accompanied by palpitation of the heart, eructations, and occasional vomiting, these symptoms being especially noticeable after eating. There was some embarrassment of the respiration and progressive weakness. On examination an area of tenderness was made out in the lower anterior thoracic and epigastric regions, but no pathological condition of the heart manifested itself. The stomach was dilated, its lower border extending two finger breadths below the umbilicus; the tongue was furred and bowels constipated. Examination of the urine was negative. Treatment was symptomatic. On the fourth day his condition seemed greatly improved, but on the following morning edema of the lower limbs appeared, orthopnea developed, and, though vigorously stimulated, death occurred suddenly on the eighth day.

**NECROPSY.**—Body of a well-developed white man 1.6 meters in height; weight, 90 kilos. Subcutaneous fat abundant. On opening the thorax the lungs protrude, section showing them to be edematous throughout, but otherwise normal, as are the pleural coverings. The pericardium is markedly thickened and the sac contains 20 c. c. clear fluid. The heart is enlarged, weighing 400 grams and, where not covered with fat, of a yellowish brown color; it is relaxed and flabby, tearing as readily as paper, this friability being especially pronounced in the wall of the left ventricle. The right auricle is filled with clotted blood; the left ventricle with an ante-mortem clot weighing 16 grams. On the valves sclerotic changes are shown, reaching in the aorta the most extreme calcareous stage without producing insufficiency. The coronary arteries are small and are involved in the general atheroma. Abdomen: The omentum contains an excessive amount of fat; the liver is large, congested, and easily sectioned; weight, 1,500 grams. The left kidney weighs 180 grams; the capsule is adherent and the stellate veins prominent. The right kidney weighs 160 grams and shows similar pathological changes. The spleen is enlarged and friable, section showing deep engorgement. The intestine is normal throughout.

J. W. A.

*Valvular lesions of mitral.*

## I.

H. E.; age, 37; nativity, Germany; admitted to U. S. Marine Hospital, Baltimore, Md., December 8, 1904; died December 11, 1904.

**HISTORY.**—Family history negative. Previous history: Patient used to be hard drinker. Had syphilis ten years ago. Has had shortness of breath for three or four years. Feet began to swell ten weeks before death.

**PHYSICAL EXAMINATION.**—Marked ascites and general anasarca. Area of superficial cardiac dullness moderately enlarged. Double mitral murmur, presystolic and systolic, the latter loud and blowing in character and transmitted into the left axilla. A systolic murmur is heard over the aortic and tricuspid areas also, but can not be differentiated with certainty from the mitral murmur. Jugular pulsation noted on right side. Liver slightly enlarged. Albuminuria with hyaline casts.

**CLINICAL DIAGNOSIS.**—Valvular disease of heart—mitral regurgitation and obstruction, aortic obstruction, and tricuspid regurgitation; chronic nephritis.

**ANATOMICAL DIAGNOSIS.**—Valvular disease of heart—mitral regurgitation and obstruction; dilatation of heart; general arteriosclerosis; chronic nephritis.

**NECROPSY** (20 hours after death).—Rigor mortis slight. Post-mortem lividity of dependent parts. Subcutaneous tissue infiltrated with serum. Pericardial sac contains 75 c. c. of clear, straw-colored fluid. Heart enormously dilated with moderate thickening of walls; weighs 770 grams. Right heart contains great quantity of blood, with large white clots. Natural contour of the mitral valve entirely lost; remains of leaflets thickened and covered with chronic vegetations. Some thickening of aortic cusps also noted. Aorta is dilated and atheromatous. Tricuspid valve apparently composed of only two leaflets, one poorly developed, with slender columnæ carneæ and chordæ tendineæ, and the other correspondingly hypertrophied. Pulmonary artery dilated and atheromatous. Left lung bound to chest wall and diaphragm by adhesions, easily separable in front, more dense behind and below; weight, 800 grams. Lung is

congested and its vessels atheromatous, but is otherwise normal. Right lung attached to anterior chest wall by a few friable adhesions; weight, 1,000 grams. Condition same as left lung. Peritoneal cavity contains much clear fluid. Liver weighs 1,750 grams. Surface is roughened and marked with stellate scars. Capsule thickened and organ is firmer than normal. Section shows typical "nutmeg" appearance. Left kidney weighs 220 grams. Very hard; dark red on section; capsule adherent; cortex of normal thickness; vessels atheromatous. Right kidney same as left. Spleen weighs 210 grams. Larger than normal; firm and congested. Dark red, and shows a considerable increase of connective tissue on section.

C. W. W.

## II.

W. McB.; age, 50; nativity, Ireland; white; single; before the mast; admitted to the United States Marine Hospital, Boston, Mass., January 11, 1905; died January 18, 1905, at 9.50 p. m.

**HISTORY.**—On admission the patient complained of shortness of breath, dull pain over the præcordia, swelling of the legs and thighs. Physical examination: Face puffy and oedematous, respiration rapid and labored, slightly cyanosis. Apex beat of heart in sixth interspace outside the nipple line; area of deep cardiac dullness much enlarged to the left. There is a loud blowing systolic murmur best heard at the apex and transmitted toward the axilla. Liver dullness increased two fingers breadth below the chondro-sternal line. Spleen enlarged and palpable; legs and thighs very oedematous. Patient given tincture of digitalis 8 gtts. thrice daily, and on several occasions whisky and strychnine. Three days after admission patient began to be jaundiced. This increased up to the day of his death. In spite of all efforts patient grew rapidly worse, and died January 18, 1905, at 9.50 p. m.

**NECROPSY** (14 hours after death).—The body is that of a well-developed and nourished man apparently about 50 years of age. Post-mortem rigidity and lividity well marked. Right lung weighs 570 grams. Left lung weighs 520 grams. Both are oedematous at their bases. Heart weighs 505 grams, and shows many old vegetations and much scar tissues in the aortic and mitral valves, especially the latter. All the arteries are sclerotic. The aorta presenting plaques from 1 to 3 cm. in diameter. Liver weighs 2,010 grams, and shows chronic hypertrophic cirrhosis. Spleen weighs 305 grams, and shows chronic passive congestion. The right kidney weighs 180 grams. The left kidney weighs 200 grams; both show chronic passive congestion. The pancreas weighs 170 grams, and is apparently normal. The brain was not examined.

C. E. S.

W. C. R.

R. M. W.

## III.

E. H.; age, 60; United States; entered marine ward, Providence Hospital, Seattle, Wash., March 28; died March 29, 1905.

**CLINICAL HISTORY.**—The patient was admitted at night and not seen by the visiting physician until the following morning. At that time his condition was such that no family nor personal history could be elicited. Sighing respiration; delirium cordis and loud, moist râles made an accurate diagnosis impossible. The lips were cyanotic, pulse thready, and the patient partly unconscious, though at times complaining of severe pains in the chest. Stimulants were used without effect; death ensuing in a few hours.

**NECROPSY.**—Body of a poorly nourished male, about 60 years of age; weight 56 kilos; height, 160 cm. No postmortem lividity; no bruises, wounds, or other marks of external violence. Panniculus and musculature thin and bloodless; omentum contains but little fat, and is slightly adherent to parietal peritoneum. The stomach is dilated and partly filled with undigested food. Its blood vessels are dilated as are also the branches of the superior and inferior mesenteric. Aside from this congestion, the bowel is normal. The spleen is swollen; cut section very dark and of softer consistency than normal, weight 154 grams. The liver is of normal size and color, but its weight is increased, probably on account of excessive blood content, to 1,900 grams. The right kidney: Capsule readily removed; cortex injected; normal consistency in medullary portion; weight, 150 grams. Left kidney: Capsule stripped easily; cortical portion congested; weight, 144 grams. Remainder of the urinary system is normal.

Lungs: Intense pulmonary engorgement is found throughout, with edema. Both pleuræ are adherent to the thoracic wall, anteriorly and laterally; anthracosis very marked; bronchi filled with a watery exudate. Heart: Weight 300 grams; of small size and normal muscular consistency; the left auricle is enlarged and contains a white clot; the mitral valve has undergone stenosis, so as to admit the finger with difficulty; remaining valves are normal. Aorta shows no atheromatous change. Cranial cavity not examined.

J. W. A.

## IV.

J. F.; negro; male; age, 52; native of Kentucky; deckhand; admitted at the United States Marine Hospital, Louisville, Ky., July 7, 1903; died December 25, 1904.

**HISTORY.**—Several brothers had consumption. Has had syphilis and pneumonia and has been a hard drinker. Treated here frequently during past five years for syphilis and for valvular disease of heart. From past histories it appears that the heart trouble was first noted as mitral stenosis, with a later development of mitral and aortic insufficiency. Became more and more troubled with constipation, dyspnoea, edema of lower limbs, and cardiac pain. This cardiac pain became almost continuous and required frequent opiates. He weakened steadily, and died after much suffering.

**NECROPSY** (27 hours after death).—Body of negro male, emaciated, with much oedema of lower limbs and slight rigor mortis. Long median incision. Little fat. Costal cartilages ossified. Heart: Yellowish, large, firm, friable; weight, 820 grams; vessels prominent on surface. No pericardial fluid or adhesions. Left ventricle hypertrophied. Right ventricle thin walled. Aortic and mitral valves thickened, wrinkled, and incompetent, the right posterior aortic being perforated. Pulmonary valves remarkably thin, but competent. Tricuspid valves normal. Calcareous degeneration around aortic opening and beginning of coronaries, with small nodules of same throughout the aortic arch. Left lung: Adherent on all sides from old adhesions, small, congested; weight, 450 grams. Right lung: A few old adhesions below, lower back part congested, some edema; weight, 680 grams. Liver: Normal color; weight, 1,130 grams; capsule normal, substance firm, inferior border very thin. Gall bladder filled with rather thick bile, no stones. Spleen: Small, rather hard; weight, 85 grams. Kidneys: Right weighs 195 grams, left weighs 220 grams; each kidney capsule comes off readily, but brings a few small areas of kidney substance. Cortex of each congested. Prostate very small.

G. B. Y.

*Mitral and aortic.*

## I.

T. V.; age, 61 years; married; nativity, West Indies; admitted to the United States Marine Hospital, Boston, Mass., September 1, 1904; died October 25, 1904, at 3.15 p. m.

**FAMILY HISTORY.**—Father dead, cause unknown; mother dead; cause, old age.

**PREVIOUS HISTORY.**—Patient stated on admission that he had had typhoid fever; but other previous history was not obtainable. He was treated in this hospital from June 9, 1904, under the diagnosis of aneurysm, arch of aorta. At this time he had hypostatic pneumonia. Patient was discharged recovered from his pneumonia and improved as to his aneurysm.

**PRESENT HISTORY.**—Patient returned to this hospital September 1, 1904, with increased heart symptoms. He complained of shortness of breath, swelling of the legs, headache, irregularity of the bowels, and loss of appetite. Physical examination showed arterio-sclerosis of all the arteries; area senilis around cornea; visible pulsation in each neck; heart is enlarged and extends downward and outward; apex beat best seen about 2½ cm. below and to the left of the nipple; loud mitral systolic murmur best heard at the apex, transmitted toward the axilla; first aortic sound was blowing; the second pulmonic accentuated; heart beat irregular in beat and rythm. The liver was enlarged; spleen not palpable. Several small lipomata were seen over the body, under the center of the left scapula, in the median line of the back, and on the anterior abdominal wall.

**NECROPSY** (18 hours after death).—Body that of a fairly well developed man about 60 years of age. Rigor mortis well marked. Post-mortem suggil-

lations fairly well marked. Lower limbs slightly edematous. There is a small tumor in the median line of the abdomen, midway between the umbilicus and the pubis. The abdominal cavity contains 300 c. c. of amber-colored fluid. The right thoracic cavity contains 300 c. c. of blood-stained fluid. The left lung is slightly adherent at the apex, shows chronic passive congestion, and weighs 750 grams. The right lung is slightly compressed by fluid, shows chronic passive congestion, and weighs 750 grams. The heart is greatly enlarged, weighs 750 grams, and presents thickened walls of the left ventricle, which contains a large antemortem clot; the mitral valves are incompetent, their edges presenting calcareous nodules. The aortic valves are stiff and atheromatous, and the orifice is somewhat dilated. The aorta presents atheromatous deposits throughout its entire course, and its lining membrane is of a peculiar lemon-yellow color. The liver is considerably enlarged, shows chronic passive congestion (nutmeg liver), and weighs 1,822 grams. The spleen weighs 350 grams, and shows chronic passive congestion. The kidneys show chronic passive congestion and cystic degeneration; each weighs 300 grams. The intestines are normal.

W. E. K.  
W. C. R.  
R. M. W.

## II.

J. N.; aged 65 years; nativity, Denmark; admitted to United States Marine Hospital, San Francisco, Cal., October 12, 1904; died December 21, 1904.

HISTORY.—This man had been sick for some months and although he had continued to work on his vessel, he was weak and frequently out of breath. He also had cramps in his abdomen, no appetite, and his bowels were often constipated. Examination shows an enlarged heart, a mitral and aortic murmur are both present, and the sounds have a foetal character. The pulse is deficient in volume and irregular in rhythm. The arteries are tortuous and feel hard and rough under the finger. The urine contains albumen and the microscope shows hyaline casts. The man's condition did not improve. His dyspnoea increased and he slowly sank into a state of exhaustion and died at 12.05 a. m. December 21, 1904.

NECROPSY (11 hours after death).—Length of body, 5 feet 11 inches. Poorly nourished. Pigeon breasted. Brain: Weight, 1,350 grams; vessels thickened and atheromatous; 500 c. c. of clear fluid in right pleural cavity. Right lung: Weight, 1,070 grams; floats in water; tissue crepitant; bloody serum exudes upon section. Left lung: Weight, 970 grams; floats in water; lower lobe of a darker red than rest of lung; tissue crepitant. Heart: Weight, 680 grams, the external surface presents two milk spots, one as large as a dollar and the other 8 cm. by 5 cm. The pericardium is thickened. Mitral and aortic valves thick, nodular, sclerotic, and distorted; thickness of wall of right ventricle, 0.75 cm.; of left ventricle, 2 cm. Coronary arteries are tortuous, their coats thickened, and nodules are present throughout their course. The connective tissue between muscular fibers of the heart is increased. Many atheromatous spots are present in aorta. Spleen: Weight, 110 grams; measurements, 11 cm. by 6 cm. by 4 cm.; the capsule is thickened and dips deeply into the tissue in places, giving the organ a lobular appearance; trabeculae are large and prominent; the pulp is small in quantity, firm to the touch, and of a deep-red color. Left kidney: Weight, 205 grams; capsule firmly attached to kidney substance; cortical portion narrow; color, reddish yellow; pyramids well outlined; pelvis contains much fat. Right kidney: Weight, 180 grams; condition the same as left kidney. Suprarenal capsules negative. Bladder small; prostate gland enlarged. Liver: Weight, 1,350 grams; connective tissue increased; the cut surface has a waxy appearance. The gall bladder is filled with bile; no gallstones are present. Stomach and intestines are apparently normal. Appendix small. The abdominal aorta is thickened and in many places its walls crackle like dry parchment paper when handled.

W. G. S.

## III.

B. J. B.; aged 45 years; nativity, New York; admitted to marine ward, Hospital of St. Vincent de Paul, Norfolk, Va., May 18, 1905; died June 6, 1905.

HISTORY.—Present illness began last April, when patient was taken with severe neuralgic pains in his head, hard and dry cough, with no expectoration; sharp pains in the left side, more marked between the sixth and seventh ribs

and under the scapula, and also behind the sternum. The least exertion increased these pains and caused patient to cough. Respiratory movements are labored and patient speaks with difficulty.

**NECROPSY** (15 hours after death).—Rigor mortis well marked. No discoloration of body surface. Heart: Weight, after opening, 466.5 grams. Hypertrophied. Vegetations present on aortic and mitral valves. Aorta: Marked thickening and cartilaginous degeneration of ascending aorta and arch of the aorta. Lungs: Left, weight, 684 grams; congested and emphysematous. Right lung: Weight, 764 grams; markedly emphysematous. Larynx and trachea: Ossified and ulcerated. Entrance to larynx almost closed. Epiglottis very much hardened and thickened. Abdominal cavity: Stomach was dilated and filled with blood clot; mucous membrane reddened and thickened. Spleen: Normal in size; weight, 217 grams. Liver: Normal on section; small in size; weight, 1,368 grams. Kidneys: Normal; left, weight, 186 grams; right, weight, 178 grams.

R. B.

#### *Aortic.*

P. J.; aged 48; nativity, Cape Verde Islands; colored; widower; cook.

**PREVIOUS HISTORY.**—Nonalcoholic; moderate smoker; difficulty in urination for past two years. Patient's first illness.

**PRESENT HISTORY.**—Three months before admission, patient noticed that his ankles began to swell. This swelling gradually extended until the entire body was oedematous. Patient complained of dyspnoea, constipation, loss of sleep, and a feeling of precordial pressure.

**PHYSICAL EXAMINATION.**—Body, especially lower extremities, scrotum, and penis, very oedematous. A loud, harsh systolic murmur heard over entire chest and in neck, but most distinctly in the second right interspace. Breath sounds considerably diminished over bases of both lungs. Patient very nervous; pupils dilated; breath has a distinct urinary odor. Elimination was promoted by all the emunctories, dry magnesium sulphate on tongue, pilocarpine and infusion digitalis by mouth, hot packs, and sweats. The urine was found to contain large quantities of albumen and a few granular casts. Every effort was made to make compensation and to relieve the heart; abdominal paracentesis was performed four times, the average amount of fluid withdrawn being about 3,500 c. c. The patient, however, after a short preliminary rally began to fail, and died April 5, 1905, at 2.55 a. m.

**NECROPSY** (31 hours after death).—The body is that of a well-developed and well-nourished negro man, apparently about 50 years of age. Rigor mortis fairly well marked. Post mortem lividly well marked. Entire body very oedematous, and serum escapes freely on section. Right lung weighed 700 grams; left lung, 620 grams. Both are somewhat oedematous at the bases and posterior surfaces. The heart weighs 610 grams and shows considerable diminution in the caliber of the aortic ring and great thickening of the aortic valves. The aorta presents numerous sclerotic plaques, and the thoracic portion a small saccular aneurysm approximately 2.5 cm. in diameter. The liver weighs 1,280 grams and presents marked atrophic cirrhosis. Spleen weighs 275 grams and presents chronic passive congestion. Right kidney weighs 210 grams; left kidney, 225 grams. Both present chronic parenchymatous nephritis and passive congestion. The pancreas weighed 200 grams. The brain weighs 1,500 grams, and was normal, with the exception of considerable fluid in the lateral ventricles.

C. E. S.  
W. C. R.  
R. N. W.

#### RUPTURE OF AURICLE.

J. F.; age, 60; Scotch; admitted to marine ward, Providence Hospital, July 27, 1904, 8 p. m.; died July 28, 9 a. m.

**CLINICAL HISTORY.**—Patient was overcome while rowing a boat on Puget Sound. He was taken to hospital and on examination found to be suffering a severe circulatory disturbance. The radial pulse was obliterated; the skin was cold and covered with perspiration; there was cyanosis of the lips and the breathing was hurried and superficial. Auscultation of the heart showed delirium cordis: percussion, an area of dullness extending from the second left costal cartilage to sixth and, laterally, beyond the nipple line. He complained of heart anguish and a sense of suffocation for several hours, then sank into unconsciousness, and died in convulsions early the following morning.

**NECROPSY.**—Body of a finely developed male, weighing about 90 kilos; height, 1.8 meters; no external marks of violence. The organs of the abdomen were normal with the exception of the kidneys, which showed sclerotic changes. The capsules were thick and stripped from the cortex with difficulty; the surface of each kidney was rough and nodular. On opening the thorax the pericardium was found distended to its utmost capacity and of a bluish-black color. Section proved this to be due to clotted blood which completely encompassed the heart. Removing these clots, a circular opening about 6 mm. in diameter presented at the extremity of the appendix of the right auricle. The heart muscle everywhere showed fatty degeneration with the characteristic flabbiness and brownish-red color. The valves were sclerosed and there was dilation of the ventricles. On the convex border of the ascending portion of the aorta an enormous aneurism was found of the sacular variety. The pleural investment of the right lung was adherent to the thoracic wall posteriorly. The lungs, bronchi, trachea, and larynx were normal.

J. W. A.

## PERICARDITIS.

J. S.; aged 63; white; male; nativity, Ohio; admitted to the United States Marine Hospital, Cairo, Ill., February 9, 1905; died February 19, 1905, at 10 p. m.

**HISTORY.**—Had yellow fever in 1877, and, excluding the accompaniments of an alcoholic habitué, has enjoyed fairly good health; no specific history. Present trouble dates from about six weeks previous to his admission, when, after a fall which contused the tissues over the right scapular region, free respiration became painful and he began to have an annoying cough.

**EXAMINATION.**—No visible signs of injury; crepitant râles and flatness under right scapula; respiration labored; heart beat, rapid; heart sounds indistinct; abdominal organs apparently normal; urinalysis negative. Examinations of sputa or tubercle bacilli negative, although from history and physical signs a diagnosis of tubercle of lung was made.

**NECROPSY** (12 hours post-mortem).—Body that of a strongly built man, inclined to stoutness; chest somewhat barrel-shaped; rigor mortis well marked; tattoo on the right forearm; herpes labialis; slight erosion of skin at inner side of left kneejoint; genitalia, normal. Excessive deposits of abdominal subcutaneous fat; pericardium almost completely invested with fat, its capacity increased and filled with a pale-green serous fluid; a soft fibrinous exudate completely lines the pericardium and covers the heart; numerous adhesions between the visceral and parietal layers of pericardium. Ante-mortem clots in cavities of heart and arch of aorta. Weight of heart and pericardium, 1,056 grams. Right pleuritic adhesions extensive. Fifth rib on right side had been fractured near its angle, and here a circumscribed abscess is found. Right lung: Weight, 1,260 grams, and, with exception of small areas at the inferior portions of the lower and middle lobes, is hard and noncrepitant. Bronchi filled with mucopurulent exudate. Left lung: Weight, 720 grams; normal in structure. Liver: Weight, 1,800 grams; tissue, normal; clots in hepatic vessels. Gall bladder, normal; contains 30 c. c. bile. Right kidney: Weight, 240 grams; easily divested of capsule; distinctly lobulated; on section, cortex, which is thin, is tough and brick dust in color; deposits of fat are found around calices. Left kidney: Weight, 240 grams; capsule, adherent; surfaces of organs separated by deep sulci into lobules, the latter being coarsely nodular; a large cicatrix at the superior extremity of this organ. On section the appearance is the same as the right kidney. Spleen, normal; weight, 207 grams. Stomach empty. Phleboliths in walls of superior vena cava. Lymphatic glands of greater mesentery undergoing calcareous degeneration. Urinary bladder empty. Calvarium not removed.

T. H. D. G.

G. M. G.

## ENDOCARDITIS.

W. B.; age, 27; nativity, England; white; before the mast; admitted to the United States Marine Hospital, Boston, Mass., March 14, 1905, and died May 11, 1905, at 8.50 p. m.

**HISTORY.**—Gonorrhea two years ago; treated in the United States Marine Hospital, Boston, Mass., from September 21, 1904, to February 20, 1905, for a very severe attack of rheumatic fever complicated by endocarditis, affecting chiefly the aortic and mitral valves. On discharge from hospital patient presented

slight murmurs, both aortic and mitral, but compensation was very good. On readmission patient complained of cardiac pain and distress, breathlessness and dizziness on exertion, and slight pain in the elbows and ankles. On physical examination a murmur was heard at the apex, systolic in time, blowing in quality, and transmitted toward the axilla. Also a loud, harsh, high-pitched systolic and diastolic murmur of a "steam-tug" character heard best in the second right interspace, but diffused over entire chest. The apex beat was in the sixth interspace outside the nipple line. The area of superficial cardiac dullness was increased to the left. The pulse was of a "water-hammer" quality, irregular and compressible. The patient was placed on doses of tincture of digitalis, 8 gtt., thrice daily and given soap and water enemata from time to time to keep the bowels open. For a time he seemed to be making compensation, but later the lower extremities became oedematous, cardiac pain and distress with dyspnoea became more severe, and the patient died May 11, 1905, at 8.50 p. m.

**NECROPSY** (14 hours after death).—The body was that of a young man apparently about 27 years of age, poorly nourished and poorly developed. Post-mortem rigidity and lividity well marked. Both lungs were firmly adherent to the parietal pleura. The right lung weighed 575 grams; the left weighed 565; except for adhesions to the pleura they are normal. The heart weighed 670 grams, and was firmly adherent to the pericardium, which was very greatly thickened. The mitral valves presented on their free edge small cauliflower-like vegetations. These were of two characters, (a) small, hard, well-organized nodules of a pearly white color; (b) larger, softer, more irregular shaped tumor-like masses of a pink color. The aortic ring was considerably narrowed by cicatricial tissue; the free edges of the valves presented many hard vegetations, while the valves themselves were greatly thickened and presented several areas of well-organized scar tissue. The walls of the right ventricle were much thinner than normal. The tricuspid valves presented at their free edges and bases many fresh, soft, pink, cauliflower-like vegetations. The pulmonary valve was normal. The liver weighed 1,810 grams and presented chronic passive congestion. The spleen weighed 200 grams and was normal. The pancreas weighed 165 grams and was normal. The right kidney weighed 175 grams, the left kidney weighed 185 grams; both were normal. The brain was not examined.

C. E. S.  
W. C. R.  
R. M. W.

## HERNIA.

### *Strangulated.*

H. S.; aged, 44; nativity, Prince Edward Island; white; steward; admitted to the U. S. Marine Hospital, Boston, Mass., February 20, 1905, at 3.30 p. m., and died at 9.55 p. m. the same day.

**FAMILY AND PREVIOUS HISTORY.**—Negative.

**PRESENT HISTORY.**—Patient stated that six days before admission, while at sea, he had a severe attack of diarrhea and vomiting. Since that time he has vomited everything taken by mouth.

**PHYSICAL EXAMINATION.**—Showed patient poorly nourished and developed; complexion gray and muddy; feces worried; breath had a fecal odor. During the examination patient vomited a small amount of thick, brownish, foul-smelling fluid. Heart and lungs were apparently normal. In the right femoral region was a dark purplish mass the size of a man's fist. On the left side the patient had a direct inguinal hernia, having a large ring. The mass in the right femoral region was diagnosed as a strangulated femoral hernia, and an immediate operation advised. The patient consented, and was immediately prepared for operation. Under ether anaesthesia an incision parallel to the long axis of the body was made directly over the center of the tumor mass. Upon laying back the skin and subcutaneous tissue a black mass was found inclosed in a sac. This was opened and found to contain gangrenous intestine. The patient was very weak throughout the operation, and required repeated stimulation and artificial respiration. In view of this fact it was decided to remove the gangrenous portion of gut with all possible expedition, and to this end a section some 8 inches in length was removed and the severed ends reunited with a Murphy button. It was impossible, however, owing to the lowered vitality of the gut to put the button in in such a way that it would not



tear out. This was attempted several times and 2 feet of gut in all were removed, when an intestine high up in the abdomen ruptured and it was seen that almost the entire intestinal tract was either dead or in a dying condition. The patient being almost dead, and it being seen that further operative interference was useless, the belly was washed out hurriedly with normal salt solution, drainage inserted, and the patient removed to the ward, where he died at 9.55 p. m.

NECROPSY (twelve hours after death).—Permission was obtained from the relatives to examine but not to remove the abdominal contents. The contained organs were apparently normal with the exception of intestinal tract. Almost the entire small intestine was gangrenous and very friable. The gangrene was not continuous, being alternated with patches of comparatively healthy gut. The coil of gut lying contiguous to a gangrenous portion of gut would be gangrenous, while the healthy portions of gut would have good gut lying upon them.

C. E. S.  
W. C. R.  
R. M. W.

### INFLAMMATION OF LIVER.

#### *Chronic.*

J. R.; aged, 54 years; nativity, Italy; admitted to the United States Marine Hospital, San Francisco, Cal., August 29, 1904; died, October 18, 1904.

HISTORY.—The patient had dysentery eighteen years ago. Since that time he had been troubled with his stomach, having frequent eructations of gas and a feeling of weight after eating, with attacks of vomiting several times a week. During the past two years he has had six attacks of biliary colic. In December, 1903, his abdomen was opened, and adhesions between the liver, gall bladder, and stomach were severed. No gallstones were present in the gall bladder or bile-ducts. His condition was much improved after this operation for several months, but the symptoms gradually returned, and, although he had no more attacks of biliary colic, he would have, occasionally, spells of nausea, vomiting and pain, followed by chills and fever. He was greatly emaciated, and complained of great itching of the skin. The skin was of a dark, slightly yellow hue. The left lobe of the liver was much enlarged. The number of white corpuscles to the cubic millimeter was 18,000, of which 73 per cent were polynuclear, 10 per cent large mononuclear, 16 per cent small mononuclear, and 1 per cent eosinophiles. The hemoglobin was 84 per cent. No sugar or albumen was present in the urine. It contained 1.7 per cent urea. On October 17 the abdomen was opened under ether anæsthesia by an incision 1 inch to the right of the middle line, beginning 1 inch below the ensiform cartilage and extending to the umbilicus. Dense adhesions were found between the omentum, liver, and stomach. No stones were present in the gall bladder, cystic duct, or common duct. The stomach was much dilated, so a gastroenterostomy was performed, joining the posterior lower surface of the stomach to the jejunum. There was considerable oozing of blood from the broken down adhesions, so a drainage tube was placed in the lower angle of the wound. He rallied well, and his pulse was good for the first twelve hours, after which time it became feeble, and he gradually failed, until death occurred at 6.15 a. m., October 18, 1904.

NECROPSY (5 hours after death).—Body emaciated, length 5 feet 8 inches, rigor mortis fairly well marked, skin deep yellow color, operation wound extends from ensiform cartilage to umbilicus, scar present on right side along border of costal cartilages; dressing immediately over wound blood stained. Muscular tissue of abdominal wall shows extravasation of blood extending several inches from wound. Brain: Weight, 1,330 grams, tissue normal, vessels at base in good condition. Heart: Weight, 370 grams, muscular tissue contains a large quantity of fat between its fibers, there is an antemortem clot in the right ventricle, thickness of right ventricular wall 0.5 cm., of left 2 cm., valves of heart normal, the walls of the right coronary artery are slightly thickened. The right lung is bound down to the diaphragm by strong adhesions, tissue crepitant throughout. Left lung: Weight, 390 grams, tissue in good condition. The abdominal cavity contains about 50 c. c. of unclotted blood lying between the stomach and liver. The vessels of the omentum are large and it is adherent to the abdominal wall, stomach, and liver in many places. The stomach is enlarged extending down as far as the umbilicus, it contains about 100 c. c. of a dark thick fluid of a slightly sour odor. The

pylorus admits one finger with difficulty. The artificial opening into the jejunum admits two fingers. The stitches joining the stomach and bowel together have held and there is no evidence of hemorrhage or leakage at this point. Liver: Weight, 1,485 grams. The right lobe is bound by strong adhesions to the diaphragm and posterior abdominal wall, there is a depressed scar 7 cm. long on its anterior surface; right lobe measures 18 cm. by 23 cm. by 7 cm. Section through the substance of the liver shows greatly increased resistance and the bile ducts are filled with hundreds of gallstones, varying in size from a grain of sand to a small marble. The centers of the lobules are deeply congested and the peripheries infiltrated with bile, giving the liver tissue a peculiar yellowish red appearance. The gall bladder is small and its walls are slightly thickened, the mucous membrane is of a clear yellowish brown color, it contains a small quantity of bile but no gallstones. The cystic duct is of normal size, but the hepatic and common ducts are greatly dilated being one-third larger than the portal vein, which is of normal size; there are no gallstones in these ducts and the opening into the duodenum admits a silver catheter with ease. Following the duct into the liver, the division entering the left lobe is found to contain two gallstones, one 6 cm. in circumference, weight,  $4\frac{1}{2}$  grams, and the other 5 cm. in circumference, weight, 2 grams; these stones do not completely block this duct. Pancreas: Weight, 140 grams, tissue normal. Spleen: Weight, 130 grams; color on section dark red. Left kidney: Weight, 170 grams; cortical tissue 0.5 cm. thick, color, red mottled with yellow, pyramidal substance plainly marked. Right kidney: Weight, 220 grams; there is a cyst as large as a peach filled with serous fluid on the upper external surface. The tissue markings are similar to the left organ. The suprarenal capsules are negative. Bladder contains a small quantity of urine. No scars or ulcers are present in the intestine.

W. G. S.

## MALARIA.

### I.

W. H.; age, 60 years; a native of Ireland; entered the Marine Hospital, Memphis, Tenn., on the 22d and died on the 23d of September, 1904.

HISTORY.—Negative, owing to his semidelirious condition.

PRESENT CONDITION.—There is evidence of malarial cachexia; the skin is cold and of muddy bronzed hue, scleræ yellow, tongue broad and indented; pulse so quick and weak as to be almost imperceptible; temperature by rectum,  $37^{\circ}$  C. Mentality is sluggish, and he can give no history of his attack. There is marked venous stasis of fingers and feet; the right heart is very weak. From his imperfect replies and the above symptoms the diagnosis of algid pernicious malarial fever was made, and effort made to restore the circulation and to destroy the plasmodia by the rectal injections of quinine. He entered at 6 p. m., and during the night responded but slowly to treatment.

September 23.—Temperature,  $37^{\circ}$  C., by rectum; pulse, 140, barely perceptible; no urine during night. Catheter used and 50 c. c. of urine obtained. There is commencing edema of the lungs, and respiration somewhat noisy. Active stimulation resulted in slight improvement at noon, when the temperature began to rise, reaching  $39.6^{\circ}$  C. under the tongue. All congestive symptoms increased, and he died algid at 5.50 p. m.

NECROPSY (held 29 hours after death).—Body of adult male, 180 cm. long; rigor marked; most intense hypostasis of entire body. Median incision disclosed the abdominal viscera deeply congested. The bladder contained 25 c. c. urine, slightly albuminous; the kidneys congested; the spleen enlarged and congested; blood from spleen showed numerous plasmodia; liver congested; gall bladder contains 75 c. c. normal bile; pancreas apparently normal. Heart is hypertrophied, the left ventricular wall 2 cm. thick; the right ventricle is dilated and its walls thin; the left auricle is dilated, and the first division of the aorta is sacculated to twice its normal size; the arch is more normal; the aortic valve is insufficient to cover the dilated opening; the mitral valve seems competent; those of the right heart are relatively incompetent. The lungs are edematous.

E. W.

## II.

E. S.; white, adult male; age, 18 years; of West Virginia; entered the Marine Hospital at Memphis, Tenn., on the 16th and died on the 18th of June, 1905.

On admission he was unconscious. A companion makes the following statement: "The man was in good health up to the 11th or 12th of June, when he was seized with a chill while at work on a tow barge bound up the Mississippi from New Orleans. From the first chill he became delirious, and this continued throughout the attack. During several days he was exposed on the decks of this barge to the elements, and was without care." When admitted, he was algid, lips blue, pulse weak, sphygmomanometric pressure in radial, 105. There was constant tossing and outcry; pupils reacted normally to light; the bowel and bladder voided unconsciously. Temperature, subnormal by rectum. The fresh blood showed numbers of intracorpuseular parasites of the estivo-autumnal type, the red containers being shrunken and bronzed; also, numerous free parasites. Quinine sulfate was administered by the rectum and by mouth, and other measures taken to relieve the algid condition. On the morning of the 17th there seemed slight improvement; mentality was better, but the depression persisted, and he died at 2 a. m. of the 18th of June.

NECROPSY.—Body of adult male, well developed; hypostasis of dependent parts, face, and neck; rigor marked, pupils dilated, bloody froth on lips. Median incision: Omentum congested and slightly bronzed; spleen enlarged, 700 grams; small intestine congested, no ulcers, no hemorrhage. Stomach mucosa and duodenum, hemorrhagic, no free blood. Liver, 2,109 grams; normal color, congested, parenchyma soft, not yellow. Bile syst full of fluid bile. Right pleura 200 c. c. of fluid. Right lung adherent. Deeply congested pericardium, but no extravasations. Heart muscle normal and valves competent. Kidneys: The left weighs 165 grams, of normal appearance, well-defined cortical markings, and normal capsule; the right weighs 195 grams and is of normal appearance. Portions of the spleen removed, and scrapings examined for plasmodia showed numerous estivo-autumnal parasites, both free and contained in the red cells.

E. W.

## NEPHRITIS.

*Chronic Interstitial.*

## I.

H. O.; age, 53 years; nativity, Germany; admitted to the United States Marine Hospital, San Francisco, Cal., December 3, 1904; died December 26, 1904.

HISTORY.—For the past two years patient has been suffering from headache, dyspnoea, slight swelling of the feet, and occasional vomiting. On admission these symptoms were intensified and he has besides a severe cough with profuse expectoration. The physical examination shows no consolidation of lungs, a high-tension pulse, a systolic murmur over the mitral area, and a large quantity of albumen in the urine. Granular and hyaline casts are present in the urine and the daily quantity of this excretion is diminished. The patient's symptoms became worse, he could hold nothing on his stomach, and he lay most of the time in a stupor from which it was difficult to arouse him. He died from exhaustion at 12.25 p. m., December 26, 1904.

NECROPSY (22 hours after death).—Length of body 5 feet 7 inches; scars of old ulcers on both legs. Body well nourished; abdominal walls  $1\frac{1}{2}$  inches thick. Omentum spread out over intestines; it is adherent to the liver along its right border. Intestines of a gray color and contain a small amount of gas. Appendix normal; tip directed toward pelvic cavity. Brain: Weight 1,410 grams; tissue pale. The cavity of the pericardial sac is lined with a thick fibrinous exudate; the sac contains about 300 c. c. of a reddish fluid. Heart: Weight 740 grams; external surface is covered with a thick layer of fat; there is a chicken-fat clot in the right ventricle, extending up through the pulmonic opening. The leaflets of the mitral valve are thickened, shortened, and indurated. The aorta is of dark yellow color and shows spots of atheromatous degeneration; this degeneration is also present in the coronary arteries. Left lungs: Weight 617 grams; base bound to diaphragm by strong adhesions; tissue crepitant throughout; blood and serum oozes from cut surface. Right lung also adherent to diaphragm; weight 872 grams; crepitant throughout, but upper lobe slightly denser than rest of lung. Spleen adherent to surrounding tissues; can not be

removed without rupturing capsule; weight 217 grams. Pulp soft; bulges from torn surface. Slight proliferation of connective tissue. Suprarenal capsules normal. Left kidney: Weight 100 grams; capsule thickened; strongly adherent to kidney surface; small cysts, size of peas, are present under capsule. The surface of the kidney after capsule is removed has a granular appearance. The cortical layer is greatly diminished in thickness and hardly perceptible in places. The pyramids are also much reduced in size; the pelvis contains much fat. Right kidney: Weight 90 grams; its condition is similar to that of the left kidney. Bladder empty. Liver: Weight 2,052 grams; the apex of the left lobe is adherent to the spleen; color light brown; the connective tissue is increased. Walls of gall bladder thickened, mucous membrane lining its interior smooth and bile-stained; gall ducts patent. Stomach enlarged; pylorus admits two fingers; mucous membrane reddish gray color; intestines negative.

W. G. S.

## II.

A. P.; age, 43; nativity, Sweden; admitted into United States Marine Hospital, New Orleans, La., March 18, 1905; died April 13, 1905.

**HISTORY.**—The patient's first symptoms were those of rheumatic fever, the left ankle and right knee being specially affected. He also had a moderate bronchitis. After three or four days the rheumatic symptoms subsided and he was taken somewhat suddenly with severe oedema of the lungs. The urine contained at this time a large quantity of albumen. The symptoms were combated with cathartics, digitalis, morphine, and hot baths. The difficulty in breathing became relieved in about ten days, and the patient became flighty in his mind and continued in a kind of demented state until his death. The albuminuria was diminished in degree after the oedema of the lungs subsided. Hyaline and granular casts were present in the urine. At the last there were dark, tarry discharges from the bowels that appeared to consist of altered blood, and this internal hemorrhage was the chief cause of the final exhaustion. The patient's radial arteries revealed an atheromatous condition.

**NECROPSY** (4½ hours after death).—Body of an adult male. Poorly nourished. Oedema of feet and hands and slight general oedema. Nail marks on limbs and body and a few small livid spots. No rigor mortis. On opening the chest the left lung was found adherent to the chest wall over its upper lobe in front, and there was an abscess on the surface of the lung in this situation. The abscess appeared to be beneath the visceral pleura, but was separated from the lung substance by a membrane and did not communicate with the bronchi. The lower part of the left pleural cavity contained serum, and the lung was compressed into small space by this and the enlarged heart. The left lung weighed 520 grams. Its substance was firm and contracted and very wet. The right lung weighed 525 grams. Its surface was dark and mottled with black spots, and the cut surface presented the same coloration. It was collapsed and nonadherent. No lesions found in its substance. The heart weighed 600 grams. It was very large and very firm, the hypertrophy being chiefly or entirely in the left ventricle, the wall of which was an inch and a half thick. No lesion was found in the valves. The visceral pericardium was rough, and at the back were stringy adhesions, brittle and easily broken. A little serum was present in the pericardial sac. The liver weighed 1,790 grams. Its tissue was very firm and the cut surface was yellowish brown. The spleen weighed 100 grams. Its tissue was soft, but normally firm. The left kidney weighed 115 grams, the right 120 grams. The capsules of both were adherent and could not be peeled. The cut surfaces were firm and quite pale, and the cortex in each was very narrow. A small cyst was found in the substance of the left kidney near the surface. The stomach was filled with a quantity of dark clotted blood, apparently very recently escaped from the vessels. No ulcer or break in continuity was discovered in the mucous membrane. The stomach wall was thin and the mucous membrane was pale and smooth. The intestines contained in their whole length a thick tarry substance, which was evidently partly digested blood.

A. C. S.

## III.

H. S.; colored; age, 38 years; nativity, Delaware; admitted to the United States Marine Hospital, San Francisco, Cal., February 19, 1905; died February 20, 1905.

**HISTORY.**—The patient was in a state of coma when he arrived at the hospital.

His breathing was stertorous, and he could not be aroused. His urine could not be obtained, as an impermeable stricture was present in the deep urethra. Percussion showed there was very little urine in the bladder. Patient was unable to swallow, so was given hot salt enemas and pilocarpine hydrochlorate hypodermically. He perspired profusely, but died six hours after reaching hospital without recovering consciousness.

NECROPSY (8 hours after death).—Length of body 150 cm., muscles well developed, very little adipose tissue present. Brain: Weight 1,160 grams, tissues apparently normal. Small amount of fluid in pericardial sac. Heart: Weight, 390 grams; thickness of wall of right ventricle 0.5 cm.; of left 2 cm.; surface of mitral valve slightly roughened, other valves normal. Right lung: Weight, 890 grams, floats in water, color dark red, blood and serum exudes on section, tissue only slightly crepitant. Left lung: Weight, 390 grams, tissue normal. Spleen: Weight 125 grams, capsule thickened, trabeculae prominent, pulp hard and particles adhere to capsule when latter is stripped off, color of pulp dark red. Left kidney: Weight 49 grams, capsule strongly adherent, dipping down into kidney substance. The medullary portion has almost entirely disappeared, its place being taken by dense bands of fibrous tissue continuous with the pelvis, large cavities exist between these bands, the cortical portion is shrunken and also contains much fibrous tissue. The pelvis contains considerable fat and has thick bands of fibrous tissue running across it. Right kidney: Weight 110 grams, condition identical to that found in the left kidney except that the process has not advanced quite so far; bladder contracted, contains about 100 c. c. of turbid urine. Upon examination this urine is found to contain large quantities of albumen and many casts, principally of the hyaline variety. A dense stricture is present in the membranous portion of the urethra. Liver: Weight, 1,360 grams; it cuts with increased resistance; color light brown, with a yellowish tint. Gall bladder contains a small quantity of bile. Gall ducts patent. Pancreas normal, stomach and intestines negative. Appendix, 18 cm. long; it extends behind cæcum, and its apex is attached to the mesocolon near the hepatic flexure.

W. G. S.

#### IV.

L. H.; age, 24; nativity, South Carolina; admitted to United States Marine Hospital, Baltimore, Md., May 23, 1905; died June 14, 1905.

CLINICAL HISTORY.—Repeated attacks of vomiting and headaches for three weeks before admission. Swelling of legs for about the same period. On admission there was general anasarca, some ascites, and enormous swelling of scrotum. Patient was passing small quantity of urine of low specific gravity, pale yellow in color, and containing a moderate amount of albumen and very few casts. Heart and lungs were negative. Under treatment the oedema diminished, but vomiting and headache persisted, and there was a gradual decrease in the amount of urine until there was almost complete suppression. Death resulted from oedema of lungs.

NECROPSY (18 hours after death).—Marked oedema of subcutaneous tissues. Left plural cavity contains 75 cc. of clear fluid. Left lung oedematous, with moderate congestion of lower lobe; weight, 500 grams. Right pleural cavity contains 100 cc. of clear fluid. Right lung same as left; weight, 700 grams. Heart weighs 410 grams. Dilatation of right side and hypertrophy of left ventricle. Slight thickening of segments of mitral valve. Liver weighs 1,490 grams. Normal in appearance and on section. Spleen weighs 50 grams. Very small and firmer in consistence than normal. Left kidney weighs 55 grams; very small; capsule adherent; cortex much thinner than normal; fibroid degeneration. Right kidney weighs 55 grams; same as left kidney.

L. L. W.

J. C.; age 51 years; nativity England; admitted to United States Marine Hospital, Cleveland, Ohio, December 24, 1903; died December 18, 1904.

HISTORY.—Had been at various marine hospitals, including Detroit, Chicago, and Fort Stanton. Patient had had typhoid, malaria, gonorrhea several times, and had been at Fort Stanton three and one-half years for tubercle of lung; discharged improved. Entered because of weakness, loss of appetite, had difficulty in urinating, dribbled away at times, had some oedema of lower extremities, albumin, Hyalin and granular casts in urine, and a slight cough; temperature normal; slightly constipated; gradually failed until death.

**NECROPSY** (3 hours after death).—Body much emaciated and very pale. Head normal; brain not examined. Thorax: Weight of right lung, 540 grams; weight of left lung, 370 grams; right lung showed a healed tubercular process, a mass of scar tissue about 5 cm. in diameter being found at the apex; the left lung showed an area of consolidation at the upper and inner part of the lower lobe, about 6 cm. in diameter. This area was composed of fibrous tissue, dilated bronchi, and small cavities, but showed no given evidence of activity; both pleuræ were adherent at apex. Heart normal. Abdomen: Peritoneum normal; mesentery glands enlarged. Liver normal; weight 1,190 grams. Spleen slightly enlarged; weight 255 grams, deep red in color. Stomach and intestines were normal. Kidneys were contracted, capsule very adherent; weighed 100 grams each, showed chronic nephritis. Bladder was somewhat congested. Penis showed scars; testicals normal. Extremities discolored and showed considerable oedema. Spinal cord was not examined.

H. S. M.

*Suppurative Pyelo-nephritis.*

## I.

R. O. T.; white; age 59; nativity, Ohio; admitted to the United States Marine Hospital, Cincinnati, Ohio, July 6, 1904; died July 12, 1904.

**FAMILY HISTORY.**—Negative.

**PERSONAL HISTORY.**—Had rheumatic fever; gonorrhea when young; was formerly heavy whisky drinker.

**CLINICAL HISTORY.**—Has had vague pains in region of kidneys for about twenty years, associated with polyuria. Present exacerbation began about six months ago with pain in abdomen, dizziness, and loss of appetite. On admittance, July 6, had indefinite pains in abdomen, with tenderness most marked on left side. Heart very irregular and weak, pulse intermitting about every three or four beats, rate 100, temperature 38.6. Urinalysis showed albumin and pus in large quantities; no casts, but epithelial cells from bladder (few), from ureters and pelvis of kidney (few), and from kidney tubules (quite a number). Urine very scant in amount. Later dyspnoea and vomiting supervened. July 8: condition about same. Almost complete suppression of urine, only about 50 c. c. being passed in twenty-four hours. Enema of mag. sulph. was given in afternoon, which relieved patient somewhat. Died quietly at 9.48 a. m. July 12.

**NECROPSY** (6 hours after death).—Body: adult male, white, emaciated, rigidity marked. Full necropsy not made, body being claimed. Median abdominal incision made and kidneys alone removed. Left kidney: Surrounded by dense fibrous capsule one-half to three-fourths inch in thickness. Almost no kidney substance left, being merely a shell filled with a foul greenish pus, and containing in the pelvis an irregular mahogany-stained stone weighing 7.8 grams. Capsule of kidney nonadherent. Weight of this kidney, with fibrous wall removed, was 100 grams. Right kidney: 180 grams, deeply congested, capsule nonadherent. On squeezing, a small amount of pus could be pressed from pyramids. Contained, throughout, a number of small urine cysts. Other abdominal organs were not removed for reason stated above.

G. M. M.

## II.

P. P.; age, 40; Russia; entered Providence Hospital, Seattle, Wash., November 9, 1904; died November 13, 1904.

Patient gave a history of untreated stricture of several years standing, and a convulsive seizure, lasting half an hour, ten days before admission. Before any thorough examination could be made he sank into a comatose condition, dying on the afternoon of the third day. The urine drawn during this time was of specific gravity 1.012, loaded with pus, and ammoniacal in reaction.

**NECROPSY.**—Body of a large, well-developed man of middle age; height, 1.8 meters; weight, 85 kilos; no post-mortem lividity, no scars or wounds. Section showed abnormally thick panniculus, and on incising the peritoneum, the omentum was found heavily infiltrated with fat. In the abdomen, the liver, spleen, stomach, pancreas, and intestine were normal, all the pathological changes being confined to the urinary tract. Right kidney: Weight, 60 grams; surrounded by a fatty capsule 5 cm. in thickness, which is removed with great difficulty. The surface of the organ is uneven and of a dull gray color. Section shows the cortex to be only a few lines in thickness, the medullary portion

absorbed and the entire kidney filled with pus. The pelvis is greatly enlarged and the ureter distended to equal the size of the abdominal aorta. In three places along its course there are constrictions barely admitting a large probe. Left kidney: Weight, 70 grams; embedded in fat as is the right and showing the same results of previous pyelo-nephritis. The left ureter is larger than the right, filled with purulent urine and shows no constrictions. The bladder is greatly distended, holding 1,500 c. c. of fluid; its walls are only a few millimeters thick. The urethra shows a tortuous stricture, extending for 5 cm. anterior to the prostatic portion, through which only a filiform bougie can be passed. The thoracic organs are normal.

J. W. A.

### III.

N. R.; age, 64 years; nativity, Maine; single; fisherman; admitted to the United States Marine Hospital, Boston, Mass., December 3, 1904; died December 28, 1904, at 2 a. m.

HISTORY.—Family and previous history, negative; present history, patient states that he has suffered with incontinence of urine throughout the past year, that it was worse at night, that he was compelled to urinate every half hour, this being accomplished with difficulty and giving rise to considerable burning sensation. On examination patient was found to be quite anæmic and in such poor general condition as to contraindicate surgical interference. The urine was acid and contained blood cells and pus in large amounts, but no casts. Patient slowly lost ground, and urine gradually changed until it became almost entirely pus, and during the two days preceding his death passed practically no urine at all. Patient died December 28, 1904, at 2 a. m.

NECROPSY (8 hours after death).—Body was that of a fairly well-developed but poorly nourished man, presenting no marks of identification; rigor mortis well marked; post-mortem suffusions present. The left lung weighs 425 grams and is normal; the right lung weighs 550 grams, is normal, but adherent at base. The heart weighs 450 grams and is normal; liver weighs 2,250 grams and shows chronic passive congestion; spleen weighs 225 grams and is somewhat pale and anæmic; pancreas weighs 90 grams, normal. The right kidney is surrounded by a large quantity of reddish-gray pus, occupying the whole peri-nephritic space; the kidney is larger than normal and presents so much destruction by suppurative processes that it has a fungoid appearance; cut section shows uniform destruction of kidney tissue; weight, 350 grams; left kidney is represented by a small amount of kidney tissue containing small abscesses and scar tissue, weighs 65 grams; both ureters are patent, their walls being much thickened and dilated; the bladder walls vary in thickness from 1 to 3 cm.; the mucous membrane is grayish and marked by deep red rugæ, approximately 0.5 cm. in width by 0.3 cm. in height, consisting of dilated blood vessels. The lateral lobes of the prostate are each 3 cm. in length by 1.5 cm. in width by 1 cm. thick; the middle lobe is spherical and approximately 1.5 cm. in diameter and projects into the urethra. The œsophagus, stomach, and intestines are normal; brain not examined.

R. M. W.  
W. C. R.  
W. E. K.

### PERITONITIS.

#### I.

M. R.; age, 20 years; nativity, Bengal; color, brown; unmarried; admitted to United States Marine Hospital, San Francisco, Cal., December 24, 1904; died December 25, 1904, at 4.30 p. m.

HISTORY.—Patient is a Lascar from British vessel, and it was difficult to secure an interpreter. Patient states as follows: He had been sick 13 days, beginning 3 days after arrival in port from Orient; had severe cramping pain in abdomen, worst in region of umbilicus; was given oleum ricini by his captain, but pain became progressively worse; has not vomited; has had no diarrhea; has been well during past year, in fact never sick before; has no cough; no pain on inspiration; unable to eat since onset of trouble; has not lost flesh, is very thin now. Patient's condition is very poor; respiration 36, shallow; temperature 36; pulse, 136, very thin and weak. Much emaciation. Eyes glassy. Expression dull. Has localized tenderness in right hypochondrium. Abdomen

not distended. Whole right side of abdomen dull, left side tympanitic. Patient in very poor condition, practically moribund. Stimulated with bare hope of improvement sufficient to justify operation. Died seventeen hours after admission. Prior to death voided large bloody stool.

NECROPSY (16½ hours after death).—Body that of a brown (almost black) male, apparently about 25 years of age. Rigor mortis well marked. Brain weighs 1,465 grams; free fluid in ventricles; no abnormalities. Scaly eruption over almost entire body. Abdominal fat scanty, pale yellow in color. On opening abdomen 500 c. c. of chocolate brown fluid found in right hypochondriac region, extending downward into right lumbar and inguinal regions but walled off from center and left side of abdominal cavity by thickened peritoneum and omentum. Large perforation in hepatic flexure of colon about size of a dollar; areas about perforation necrotic, tearing on gentle manipulation. From site of lesion downward to anus were numerous clearly cut ulcers, involving all layers of intestine; in some, peritoneal coat alone remaining. Clotted blood found in sigmoid. Above site of lesion ulcers extended upward into ileum, but there they were superficial entirely, involving only mucous coat. Right lung weighs 440 grams; crepitant throughout; hypostatic congestion of lower lobe; no nodules. Left lung weighs 330 grams; similar to its fellow. Heart weighs 250 grams; chicken-fat clot in both ventricles and auricles; left ventricular wall, 1.45 cm. thick; right ventricular wall, 0.5 cm. thick; valves normal. Liver weighs 1,890 grams; left lobe light red in color; right lobe bright green in color; deep ecchymotic area separating two lobes; on section green color extends only short distance below the surface; tissue below this being normal. Gall bladder contains flocculent bile; no calculi. Spleen weighs 370 grams; pale in color for short distance beneath surface; toward base color becomes darker, but not as dark as in normal tissue. Left kidney weighs 125 grams; capsule strips readily; organ paler than normal; superficial vessels injected. Right kidney weighs 125 grams; surface ecchymotic on account of proximity of ruptured colon; whole organ passively congested, in marked contrast to its pale fellow. Appendix normal.

W. G. S.

## II.

J. P.; age, 32 years; nativity, Cape Verde Islands; single; colored; admitted to United States Marine Hospital, Boston, Mass., November 21, 1904; died, December 1, 1904, at 4.30 p. m.

HISTORY.—Patient had soft chancre of the penis eleven years ago, treated in United States Marine Hospital, Boston, Mass., and discharged recovered.

Admitted to this hospital September 22, 1904, with suppuration of the lower lymphatic glands of right groin. These were opened and curetted September 25, 1904. Wound was dressed daily with sterile gauze, but on October 10, 1904, the patient developed erysipelas in the wound. The patient was immediately isolated and the erysipelas readily responded to treatment with local applications of alcohol. He was discharged October 31, 1904, "recovered." Two days previous to his discharge from hospital the patient complained of severe colicky pains in the right iliac region, which disappeared after purgation. A few days after leaving the hospital, patient had a similar attack of pain and on presenting himself for readmission November 21, 1904, he complained of pain and tenderness in the right iliac fossa, anorexia, and constipation. Examination showed rigidity of the muscles and tenderness on palpation in the right lower quadrant of the abdomen. There was a large oval tumor approximately 12 cm. in length by 7.5 cm. in width in this region. The patient was prepared for operation by the usual aseptic methods, and the following day (November 22, 1904), under ether anæsthesia, the abdomen was opened by incision over the center of the tumor. The appendix was examined and found to be normal. A mass was found near the median line and upon examination was found to consist of omentum containing pus, which was removed "en masse." A counter incision near the median line was found necessary in order to remove a second similar mass. The cavity was irrigated with warm saline solution and drainage inserted. From this time until his death stimulation with oxygen, strychnine, nitroglycerine, and whisky were necessary to support the patient, and at times hypodermic injections of morphine were required to control the hiccough. The daily dressings of the wound showed it to be draining well and fairly clean. The patient never fully rallied from the operation, but passed into a low apathetic state with muttering delirium, and died December 1, 1904, at 4.30 p. m.

NECROPSY (18 hours after death).—The body is that of a fairly well-developed colored man, poorly nourished, and presenting two healed scars in the right



groin and a five-pointed star tattooed on the back of the left thumb. Rigor mortis is fairly well marked. There are two wounds in the right hypochondriac region as the result of a recent operation. The superficial stitches in the median wound have loosened and there is a considerable quantity of pus in this situation. The external wound is fairly clean. On turning back the abdominal wall the intestines and omentum occupying the right iliac fossa, are found matted together with recent adhesions, the surface of the intestines in this locality being covered with a membranous exudate. The peritoneum of the intestines and of the entire right iliac fossa is of a dark-bluish slate color, and just above Poupart's ligament (corresponding to location of tumor mass which was removed at operation) it is absent for a circular space of 5 cm. in diameter. Pus is seen escaping from the center of this space, and on following up the sinus from which the pus is flowing it is found to end in a small pocket near the site of the bubo. Just inside the pelvic cavity and nearer the median line is found a small gland which is extra-peritoneal. This has undergone degeneration and is represented by a cheesy mass. The intestines are not engorged or tympanitic, but are somewhat blackened and very friable. The right half of the pelvic cavity contains 500 cc. of sero pus. The right lower end of the omentum was much thickened and presented a raw surface corresponding to the portion removed at operation. Both pleural cavities are free of adhesions and contain 10 cc. of clear serum. The right lung weighs 410 grams and shows marked hypostatic congestion; the left lung weighs 300 grams and shows slight congestion in the lower lobes. The heart weighs 225 grams and is normal. The liver shows acute passive congestion, and weighs 1,650 grams; the gall bladder is empty, otherwise normal. The spleen is much diminished in size and weighs 80 grams. The pancreas weighs 110 grams and is normal. The right kidney 260 grams, the left 279 grams. Both are large white kidneys in the early stage. The ureters are patent and normal. The bladder contains 20 cc. of urine. The brain was not examined. The stomach was empty and normal. The intestines contained well-digested milk, but no evidences of bile. This, together with the empty gall bladder, showing that the liver had ceased to functionate.

R. M. W.

## PNEUMONIA.

### *Lobar.*

#### I.

C. L.; aged, 45 years; color, brown; nativity, Hawaii; admitted to the United States Marine Hospital, San Francisco, Cal., December 29, 1904; died December 30, 1904.

**HISTORY.**—The patient stated he had been sick for four days. He has cough, dyspnea, rusty mucous expectoration, pains in both sides of chest, dullness, increased vocal resonance and increased vocal fremitus over base of both lungs, loud mucous rales are heard over the whole chest, temperature 39.6° C., pulse 112, volume small, tension low; respirations 56. During the night the patient was delirious. The next morning the severe symptoms had abated somewhat, but he died at 1.10 p. m. of exhaustion.

**NECROPSY** (22 hours after death).—Length of body, 5 feet 8 inches. Tattoo marks upon left hand. Brain, weight 1,287 grams; tissue, normal. Heart, weight, 435 grams; chicken-fat clot in right ventricle extending through pulmonary opening; edges of mitral valve slightly thickened, other valves normal; thickness of wall of right ventricle 0.75 cm., of left ventricle 2 cm. Left lung: Weight, 950 grams; floats in water, crepitant at apex, consolidated along upper border of lower lobe; section of consolidated portion presents a yellowish red appearance. Right lung: Weight, 1,300 grams; it is adherent to chest wall by easily separated adhesions; it floats in water. Lower lobes and half of upper lobe consolidated; this portion is of a deep red color. Omentum thin, contains no fat. Peritoneum of a pearly white color. Appendix normal, tip points toward pelvic cavity. The gall bladder and ducts are bound to the pylorus by adhesions easily broken down. The common bile duct is the size of a lead pencil. No gall-stones are present, and the ducts are patent. Spleen: Weight, 270 grams; capsule of a slate color; pulp, soft; color, light red. Suprarenal capsules normal. Left kidney: Weight, 155 grams; capsule thin, kidney substance showing through; cortical portion of normal thickness and color; pyramids well marked. Right kidney: Weight, 157 grams; condition

similar to opposite kidney; bladder empty. A small indurated ulcer is present on the foreskin of the penis. Liver: Weight, 1,950 grams; connective tissue slightly increased; on section the surface presents a reddish color tinged with yellow. Stomach and intestines normal.

W. G. S.

## II.

S. O.; age, 33 years; nativity, Norway; admitted to United States Marine Hospital, Baltimore, Md., August 27, 1904; died August 28, 1904.

PREVIOUS HISTORY (condensed from clinical notes of medical officer in command at Delaware Breakwater).—Admitted August 27, 1904. Six days before admission drank heavily. Next day took cold plunge in sea. On following day complained of severe pains in right side of chest and in head. The next day felt better, but on succeeding day pain returned and became very severe on following morning, with fever, headache, and delirium. No cough. Physical examination revealed dullness, with harsh, tubular respiration over lower right lobe. Condition on arrival at Baltimore, very weak; temperature, 37.6; pulse, 120; respiration, 50. Despite stimulation he died twenty hours after admission.

NECROPSY (16 hours after death).—Rigor mortis and post-mortem lividity present. Left pleural cavity obliterated by adhesions. Left lung weighs 750 grams; crepitates except in lower posterior part of upper lobe, which is in stage of red hepatization, turning to gray. Right pleural cavity contains moderate amount of clear fluid. Lung is bound by adhesions to chest wall, diaphragm, and pericardium; covered, especially behind, with plastic exudate. Weight of right lung, 1,570 grams. Middle lobe completely consolidated, mottled grayish red in color on section. Lower lobe completely consolidated, except lower border anteriorly, which crepitates. This lobe is in the stage of red hepatization. On section of nonsolidified portions of lungs a frothy exudate is seen. The mucous membrane of bronchi is injected, red, and swollen. Middle lobe of right lung appears to have been first affected. Heart is larger than normal; weighs 440 grams; left ventricle tightly contracted; aortic valves competent to water test; heart contains small quantity of chicken-fat clots; valves normal. Spleen weighs 100 grams; normal on section. Liver weighs 1,755 grams; dependent portions discolored; normal on section; gall bladder normal. Right kidney is larger than normal, weight 220 grams. Capsule strips easily. Surface of section pale in color; cortex thicker than normal. Left kidney same as right; weighs 220 grams. Pancreas is normal.

ANATOMICAL DIAGNOSIS.—Croupous pneumonia of right lower and middle lobes. Right-sided sero-fibrinous pleuritis.

C. W. W.

## III.

J. S.; aged 55 years; nativity, Ireland; admitted to the United States Marine Hospital, San Francisco, Cal., March 26, 1905; died March 30, 1905.

HISTORY.—The patient had been seriously sick for six days previous to his admission to the hospital. He had the appearance of being a hard drinker. There was dullness, increased vocal fremitus, and tubular breathing over the whole of the right lung. He had pain in the right side, severe cough, moaning respiration, and thick, viscid, yellowish-red expectoration; pulse 112, respirations 32, temperature 38.8° C. The patient's condition did not improve. There was no sign of crisis or of clearing up of the right lung. The base of the left lung became involved, and he died of exhaustion March 30, 1905, at 11.40 p. m.

NECROPSY (12 hours after death).—Length of body, 155 cm.; well nourished; rigor mortis well marked. Brain: Weight, 1,310 grams; vessels congested. Heart: Weight, 435 grams; large white clot in right ventricle; thickness of wall of right ventricle, 0.75 cm.; valves of right side normal; leaflets of mitral valve roughened, thickened, and shortened. The aortic valve is stiff, and a few calcareous particles are present. They are atheromatous patches in the aorta, especially about the openings of the coronary arteries. The thickness of the wall of the left ventricle is 2 cm. Right lung adherent to chest, sinks in water, noncrepitant throughout, tissue dense, color grayish red; left lung adherent pleura thick and fibrous, lung partially sinks in water, tissue noncrepitant, but not as dense as opposite lung, color red, with yellowish spots here and there. Spleen very soft, badly torn while separating from other organs. Left kidney: Weight, 193 grams; considerable fat in pelvis; tissue apparently normal. Right kidney: Weight, 187 grams; color on section, light red; no pathological

change noted. Bladder contains small quantity of clear urine. Liver: Weight, 2,070 grams; a small, glistening, hard, white substance the size of a marble is shelled out of a depression in its superior surface; color of tissue on section yellowish-white. Pancreas, stomach, and intestines negative.

W. G. S.

#### IV.

J. B.; aged, 46 years; nativity, Virginia; admitted to marine ward, Hospital of St. Vincent de Paul, Norfolk, Va., April 10, 1905; died April 11, 1905.

HISTORY.—Parents, two sisters, and two brothers living and in good health. Patient has usually enjoyed good health; habits good. Present illness began one week ago; patient got wet, which was followed by a chill, shortness of breath, and increased respiration.

PHYSICAL EXAMINATION.—Eyes clear and normal; tongue heavily coated in center and on sides; pulse rapid; heart sounds normal. Lungs: Vocal fremitus increased over left lung, with dullness anteriorly and posteriorly. Auscultation reveals bronchial breathing with subcrepitant râles over left lung.

NECROPSY (9 hours after death).—Rigor mortis marked; body well nourished. Heart: Weight, after opening, 330 grams; normal. Lungs: Left, small, dark in color, and congested; adherent to thoracic wall; weight, 330 grams. Right lung, adherent, dark in color, and congested. Several tubercular nodules found in its substance; weight, 750 grams. Sections of both lungs floated in water. Abdominal cavity: Stomach distended with gas. Intestines and appendix normal. Liver: Hard, its upper surface roughened; weight, 2,180 grams. Kidneys: Normal; left, weight, 210 grams; right, weight, 150 grams. Spleen, weight, 150 grams. Pancreas normal.

R. B.

#### V.

G. C.; aged, 43; nativity, England; single; white; first mate; admitted to the United States Marine Hospital, Boston, Mass., at 11 a. m., and died at 3 p. m. the same day.

Family and previous history were not obtainable as the patient was unable to speak without great pain and difficulty. Patient had been ailing for several days before admission, complaining of intense pain in the chest increased on respiration and movement, and cough with "prune-juice" expectoration. On examination patient was found cyanotic and gasping for breath. Respiration, 60 per minute; pulse small and thready and too rapid to count. Bronchial breathing over both lungs; dullness on percussion over both lungs, more marked over left. Temperature, 39.8° C. Patient given strychnine and whisky by mouth and bled from the median basilic vein, 400 c. c. of blood being withdrawn, after which the patient seemed easier. At 2 p. m. respiration began to be more labored and patient grew more cyanotic; he was given digitalin hypodermatically, but did not improve and died at 3 p. m., four hours after admission to the hospital.

NECROPSY (18 hours after death).—Body is that of a splendidly developed, well-nourished man. Post-mortem rigidity and lividity well marked. Subcutaneous fat abundant. Right lung weighs 1,000 grams and shows red hepatization; cut section dark in color, distinctly mottled, and drips blood. Cut section sinks in water. Upper portion of lung shows beginning gray hepatization. The left lung weighs 700 grams and shows beginning red hepatization in its central portion. The heart is normal and weighs 450 grams. The abdominal contents are normal and have the following weights: Liver, 1,700 grams; pancreas, 200 grams; right kidney, 165 grams; left kidney, 185 grams; spleen, 180 grams, and on examination the brain was normal and weighed 1,450 grams. The entire venous system showed great engorgement.

C. E. S.  
W. C. R.  
R. M. W.

#### VI.

J. S.; age, 45; nativity, Massachusetts; admitted to United States Marine Hospital, Baltimore, Md., April 7, 1905; died April 19, 1905.

CLINICAL HISTORY.—Father died of tubercle of lungs. Patient had been hard drinker for many years. Caught severe cold about six days before admission. Slight pain below right nipple. No initial chill. Moderate acceleration of pulse.

and respiration. Sputum rather tenacious, but not rusty. Course of temperature was very irregular, with chills and heavy sweats at irregular intervals. Examination for tubercle and malaria negative. Patient's general condition remained good until a few hours before death.

**PHYSICAL EXAMINATION.**—Over the right lung, anteriorly, numerous rales and a pleuritic friction sound; posteriorly, over the lower lobe, marked signs of consolidation. The left lung was negative on admission; later there appeared numerous small rales, and shortly before death a pleuritic friction sound and signs of beginning consolidation at the base. Heart negative.

**NECROPSY** (5 hours after death).—Pericardium contains more than normal quantity of clear, straw-colored fluid. Heart filled with chicken-fat clots. Mitral and pulmonary valves normal. The adjacent halves of two aortic cusps are completely destroyed by a necrotic process, which has extended nearly through the wall of the aorta in the sinus of Valsalva. There is also a small necrotic focus on one of the segments of the tricuspid valve. Smear preparation from aortic valve showed, in pure culture, an organism having the morphological characteristics of the pneumococcus. Weight of heart, 490 grams. Left lung attached to chest wall behind and to diaphragm below by rather firm adhesions. Lung crepitates, but is red and congested, the change being more marked in the lower lobe. Weight of left lung, 990 grams. Right lung attached to chest wall both in front and behind and to diaphragm by firm adhesions. Lower lobe is solid and airless, mottled grayish in color, and firm on section. No crepitation. Upper and middle lobes normal. Weight of right lung, 1,220 grams. Liver much enlarged, otherwise apparently normal. Weight, 2,820 grams. Spleen larger and more friable than normal. Weight, 440 grams. Left kidney enlarged, otherwise normal. Weight, 230 grams. Right kidney same as left. Weight, 205 grams. Appendix normal and in normal position.

L. L. W.

## SARCOMA.

### *Of pancreas.*

E. H.; age, 60; nativity, Sweden; admitted to the United States Marine Hospital, Detroit, Mich., December 24, 1903; died, March 27, 1904.

**HISTORY.**—Upon admission the following history was recorded: Family history, good. Patient's health up to within the past two months has been excellent. Two months ago patient noticed a slight feeling of discomfort in right hypochondriac region, followed two weeks later by sharp lancinating pain. He has since suffered almost continuously with pain, frequent attacks of palpitation, vertigo, and cough. Expectoresates very little, digestion poor, frequent eructations of gas and strongly acid fluid, no nausea, constipated, and has lost about 10 pounds in weight since he first became sick.

**PHYSICAL EXAMINATION.**—Patient fairly well nourished; medium height, weight about 150 pounds, tongue coated, teeth in poor condition, lungs normal, slight systolic murmur in second right intercostal space at apex of heart and in axilla, and heart slightly enlarged. Two weeks after admission slight tenderness was discovered over region of gall bladder. Very slight tumor palpated over right hypochondrium and portion of epigastrium. Three weeks later there was a marked caput medusæ and ascites, ankles became dropsical, heart irregular, and emaciation and cachexia gradually increased. Patient passed several large hemorrhagic stools before death. Blood dark and clotted.

**NECROPSY** (10 hours after death).—Body greatly emaciated, skin cachectic, dry and wrinkled. Post-mortem lividity absent; rigor mortis very slight. Both pupils dilated. The contents of head and neck revealed no abnormality. Both plueræ tightly adherent, cavities almost obliterated and contained no fluid. Left lung weighed 380 grams and revealed no abnormality. Right lung weighed 800 grams and was congested and filled with hemorrhagic areas. The paricardial sac was closely adherent. Heart weighed 320 grams and found to be in systole; left ventricle slightly hypertrophied. Aortic and mitral valves both incompetent. Tricuspid and pulmonary valves, normal; heart muscle, normal. Bronchial glands in anterior and middle mediastinum slightly enlarged. Abdominal cavity contained about 800 c. c. straw-colored serous fluid; great omentum, thick and congested; stomach normal, orifices normal and contained about 30 c. c. of dark, bile-stained fluid; intestines from stomach to sigmoid flexure normal; spleen weighed 270 grams, showing no abnormal appearance; pancreas weighed 380 grams, head contained hard nodular tumor 6 cm. in

diameter. Liver weighed 2,450 grams and was covered throughout with nodules, varying from size of pea to a small orange; intermediate spaces showing evidence of fatty degeneration. Gall bladder normal, containing 75 c. c black, thick bile; ducts normal. Both kidneys apparently normal; right weighed 170 grams, left 130 grams, pelvis and uterus normal, bladder normal, containing about 200 c. c. urine. Sections prepared from liver and pancreas revealed the growth to be a spindle-celled sarcoma.

F. C. S.  
H. W. A.

### SEPTICEMIA.

O. I.; age, 49 years; nativity, Norway; admitted to the United States Marine Hospital, Stapleton, Staten Island, N. Y., November 22, 1904; died December 31, 1904.

**HISTORY.**—Patient admitted for varicose veins of both legs, and ulcer of right leg, inner side, lower third. Schede's operation done on right leg, upper third, on November 28, 1904, and ulcer cauterized. Schede's operation on left leg, same position, on December 6, 1904. Incision healed by first intention. Patient did nicely until morning of December 26, 1904, when he was seized with a violent chill. Chills continued for several days with temperature varying from 38° C. to 41.4° C. Pulse 100–150. Respiration 24 to 50. Patient stupid, hard to arouse, but intelligent when aroused. Antistreptococcic serum 20 c. c. given on December 28, 1904, and 10 c. c. on December 29, 1904. Usual stimulation administered. Condition became worse and died on December 31, 1904.

**NECROPSY** (30 hours after death).—Body of elderly male, white, fairly well developed and nourished. Rigor mortis marked. Post mortem lividity marked, especially posteriorly and below knees. Loss of resiliency of tissue. Ulcer right leg, inner side, lower third, about 2 mm. diameter, the surface of which is covered by purulent secretion and very dark in color. Two circular incisions on upper third of legs are healed. Pupils slightly dilated. Body opened medium line, skin incised and sternum removed by incising costal cartilages on either side. Pericardium smooth and shining surface exposed. Contains about 4 c. c. of straw-colored fluid. Both sides of heart are in systole. Heart walls and valves normal in color and morphology. Lungs: Left, some recent pleural adhesions around apex; both bases are red and filled with blood, considerable loss of crepitation, sink slowly in water. Omentum shining, contains considerable adipose tissue. Visceral and parietal peritoneum smooth and shining. Liver normal in size, appearance, and consistency. Gall bladder normal. Large veins of legs, right side, dissected out and excised to below popliteal space from popliteal ligament above. Femoral, popliteal, and posterior tibial filled with dark grumous blood, but intima is shiny and smooth. External suphenous vein incised from popliteal space downward to 2 inches above os calcis. From 2 inches above the circular incision on right leg to ulcer at junction of middle and lower third this vein is partly filled with purulent fluid. The vein being empty of blood, having been divided above at circular incision there being some small distance, about 2 mm., between divided ends. Smears made from the purulent fluid show numerous cocci in chains.

C. H. L.  
P. H. B.

### SKULL.

#### *Fracture of.*

#### I.

C. S., Norwegian; age, 35 years; admitted to the United States Marine Hospital, Cleveland, Ohio, June 9, 1905; died June 9, 1905.

Patient fell from aloft to deck of schooner, striking on head and left elbow. He died in ambulance on reaching hospital.

**NECROPSY** (4 hours after death).—Body is that of a well-nourished, muscular, and well-developed white adult male. Hair and moustache are sandy, eyes brown; length of body, 1.67 meters. Inspection shows signs of profuse hemorrhage from nose, mouth, and both ears. The anterior one-half of the scalp is tense and bulging from effusion of blood beneath cranial aponeurosis. There are contusions and abrasions of the skin over the right side of the face, the left

shoulder, the right knee, the right ankle, and the inner side of the left knee. There is an incised wound over the posterior aspect of the left elbow joint 5 cm. in length. Skull: There is a complete separation of the coronal suture. The vertical portion of the frontal bones is completely separated from the rest of the skull by lines of fracture running along the supraorbital ridges and extending from the outer extremities of these ridges upward and backward to the coronal suture. The dura is lacerated and there is a laceration of brain tissue involving the anterior extremity of the left frontal lobe of the brain. At the base of the skull there is a line of fracture running from the posterior extremity of the right orbit backward through the middle fossa. There is a double fracture of the left side of the body of the inferior maxilla. All the teeth on the left side of the upper jaw are broken off. There is a compound fracture of the lower end of the left humerus. Thorax: The contents of the thorax are normal. Abdomen: The contents of the abdomen are normal, with the exception of the right kidney which shows the lesion of an acute nephritis. The genito-urinary tract is normal. The spinal cord was not examined.

H. S. M.

A. P. H.

## II.

G. V.; aged 50 years; nativity, Michigan; admitted to the United States Marine Hospital, Cleveland, Ohio, September 6, 1904, 7.30 a. m.; died September 6, 1904, 10 a. m.

HISTORY.—The patient was admitted to the ward about a half hour after having fallen from a height of 12 feet. No one witnessed the accident, but there were marked evidences of an injury to the head. The patient was giving evidence of severe pain, but answered questions intelligently for the most part and seemed to hear equally well with both ears. His speech showed no signs of nerve involvement, and all muscles of the face, body, and extremities responded to stimuli. The respiration was somewhat stertorous, and the larger bronchi were filled with bubbles of mucus. Breathing was principally diaphragmatic, but some costal movement was present on the left side. The cardiac rhythm was good; rate, 100 per minute and of bounding type. Large bubbling rales were heard all over the chest. Pulse of moderate fullness and tension. The rectal temperature was 97.50. The tissues around both eyes were greatly swollen and ecchymotic, so much so that the palpebral apertures could not be opened. A small amount of blood was issuing from the nose, but none from mouth or ears. There was a contusion on external part of right supraorbital ridge and a contused wound 1 inch to right of median line of forehead just below the hair line, which, on examination, did not reach to pericranium, and no fracture could be made out beneath it. No fracture of the vault could be detected. The integument attaching the right ear to side of head over its upper portion was torn down to the cartilage. On moving the right arm the patient complained of pain, and distinct crepitus and abnormal mobility was found over the third and fourth ribs on right side in axillary space. The patient was given one-fourth grain of morphia, wounds dressed, and placed in bed. Condition remained unchanged until 9.30 o'clock, when he suddenly passed into a deep comatose condition, and died in twenty minutes.

NECROPSY (5 hours after death).—Body large and muscular. Rigor mortis present in face, neck, and arms. A large bloody suffusion was found over the upper parietal area of right side on removing scalp. A line of fracture extended from a point 6 inches above right external auditory meatus to middle of supraorbital ridge, and a small triangular piece of bone was found broken and slightly depressed over this part. The fracture extended on down, and at the anterior part of orbital roof it divided, the two lines completely encircling this portion of the base of the skull. The loose areolar tissue of the orbit protruded up into the anterior fossa. From the right orbital roof the line passed across the sphenoid bone, dividing the sella turcica, and then extended forward into the ethmoid bone and left orbital roof. A large jelly clot was found over the lower motor area on the right side, depressing the brain tissue by 3 centimeters from parietal bone. A small branch of the middle meningeal artery was severed, and the most anterior portion of the frontal lobe was lacerated. Circle of Willis, negative. Weight of brain, 1,250 grams. Otherwise brain was negative. Thorax: On removing organs from thorax a large bloody suffusion was found in the upper part of the thoracic wall, corresponding in position to a contusion over the spine and body of the scapula. The third, fourth, fifth, sixth, and seventh ribs were fractured about six inches from the transverse processes

of the spine. Lungs showed marked anthracosis; there was a laceration of the posterior part of the right upper lobe near the sight of the third costal fracture. Large bronchi contained large amount of mucus; right lung free; weight, 450 grams; left lung free; weight, 440 grams. Heart showed some increase in surrounding fat, and left ventricular wall was markedly hypertrophic and showed a fatty smear on section; valves were negative; weight, 350 grams. Great vessels negative. Liver: Marked fatty infiltration; weight, 2,005 grams. Spleen: Flabby, otherwise negative; weight, 150 grams. Left kidney negative; weight, 140 grams; right kidney negative; weight 135 grams. All other organs negative.

H. S. M.

## SPLEEN.

*Laceration of.*

J. T.; age, 39; nativity, Pennsylvania; occupation, seaman; was admitted to United States Marine Hospital, Cleveland, Ohio, July 5, 1904; died July 6, 1904.

**HISTORY.**—Patient was brought to hospital in an unconscious condition. No history could be obtained, except that patient had been struck by a moving train about two weeks before being brought to the hospital, having remained in a condition varying between unconsciousness and semiconsciousness ever since. The patient was moribund on admission. His whole left side was found to be in a condition of flaccid paralysis, while two superficial bedsores were found over the sacrum. There were no signs of fracture of the skull nor cranial nerve involvement. On the evening of July 5, the patient regained partial consciousness for a time and drank some milk, and again on the following morning seemed somewhat rational. There was a slight swelling just to the left of the ninth and tenth dorsal vertebræ, but no evidence of fracture could be made out anywhere. The patient became weaker during the morning of July 6, the respiration being of Cheyne-Stokes variety, and at 1.30 p. m., with a sudden gush of blood from his mouth and nose, he expired.

**NECROPSY** (20 hours after death).—General appearance: Body emaciated. Muscles flabby. Hypostasis over back. No oedema. Two superficial bedsores present over sacrum. Eyeballs show moderate bloody suffusion. Thorax: Heart weighs 280 grams, normal; right lung weighs 480 grams, adherent to apex; left lung weighs 620 grams, marked anthracosis, generally adherent; bronchial glands enlarged at root of both lungs. Abdomen: Stomach normal, with the exception of a small submucous hemorrhage; spleen lacerated, with formation of a perisplenic abscess; weighs 59 grams; organ is soft and hemorrhagic; splenic tissue not visible; pancreas normal, weighs 130 grams; liver normal, weighs 1,750 grams; right kidney normal, weighs 180 grams; left kidney normal, weighs 230 grams; capsule strips easily. The vertebral end of the eleventh and twelfth ribs on right are fractured. At the seat of the fracture of the eleventh rib, is an abscess, about 2 inches in diameter and slightly raised above the inner surface of the abdominal wall at that point; it contains about 4 c. c. of blood-stained pus. Examination of vertebral column at seat of contusion, reveals no fracture. Brain: Weighs 1,410 grams; pia and arachnoid stripped easily, no adhesions. There was nothing abnormal found in the brain to account for the left hemiplegia; the dura was quite firmly adherent over the whole cranial vault; the base of the skull showed no fracture. The spinal cord was not examined.

H. S. M.

## TUBERCULOSIS.

## I.

W. H. S.; colored; age, 37; nativity, Maryland; entered United States Marine Hospital, Baltimore, Md., August 1, 1904; died August 21, 1904.

**HISTORY.**—Was treated here for tubercle of lung in May, 1902; transferred to United States Marine Hospital, Fort Stanton, N. Mex., in June, 1902; discharged from Fort Stanton July 13, 1904. Condition rapidly grew worse from that date. Physical examination showed impaired resonance over apex of right lung posteriorly and over upper half of left lung, anteriorly and posteriorly. Over right lung breathing was about normal, with medium-sized, moist rales.

**NECROPSY** (about 4 hours after death).—Body emaciated. Small amount of subcutaneous fat. Heart larger than normal. Pericardial sac contained 5 c. c. of normal fluid. Right side of heart dilated and filled with jelly clots. Left side also contains clots, partly organized. Valves normal; competent to water test. Weight of heart, 550 grams. Right pleural cavity contains 400 c. c. of clear fluid. Lung covered with fibrinous exudate, especially at borders and along the fissures. Apex partly solidified and showing on section numerous miliary tubercles with one spot the size of a pea. Remainder of lung congested, but otherwise normal. Weight of right lung, 1,000 grams. Left lung bound to chest wall by dense adhesions, separable only with difficulty. In attempting to separate the apex, portions of the lung tissue were left adherent to chest wall. Practically the whole upper lobe destroyed. Apex contains three cavities the size of an English walnut, and the surrounding tissue is completely consolidated. Upper half of lower lobe is uniformly infiltrated with tubercular areas varying in size from a millet seed to a pea. Lower half not much affected, but somewhat congested. Bronchial glands show tubercular infiltration. Mucosa of bronchi injected, red, and swollen. Weight of left lung, 700 grams. Peritoneal cavity contains 500 c. c. of clear, straw-colored fluid. Small intestine shows a few small ulcers. Appendix normal and in normal situation. Spleen very large; firm in consistence; shows numerous tubercles on section; weight, 680 grams. Liver weighs 1,900 grams, and is normal on section. Right kidney weighs 200 grams; capsule strips easily; on section there is seen a patch of tubercular infiltration near the hilum; otherwise it is normal. Left kidney, same as right, except that, instead of one area of infiltration, there are several smaller spots; weight, 200 grams. Pancreas normal in size and on section; slightly firmer in consistence than normal. Prostate about normal in size.

**ANATOMICAL DIAGNOSIS.**—Tubercle of lungs; miliary tubercles of spleen and kidneys.

C. W. W.

## II.

C. T.; age, 21; nativity, Norway; single; before the mast, United States Revenue-Cutter Service; admitted to the United States Marine Hospital, Boston, Mass., November 7, 1904, and died March 3, 1905.

**HISTORY.**—Patient stated that he had always been well except for several attacks of acute bronchitis. Patient came to hospital suffering from fistula in ano. Was too weak to take anæsthetic, so no operation was performed. Physical examination showed dullness and fine crepitant rales in both apices and in the left infra clavicular region. The sputum showed many tubercle bacilli. Patient was given nourishing diet, and every attempt was made to build him up and to correct his anemia, which was severe, but in spite of all efforts the patient steadily grew worse, diarrhea became very severe, and he died March 3, 1905, at 7.15 a. m.

**NECROPSY** (26 hours after death).—The body was that of a fairly well developed but poorly nourished man of about 22 years of age. Post-mortem lividity and rigidity well marked. The heart and pericardium were normal, heart weighing 422 grams. Right lung weighed 855 grams, was adherent at the apex and posterior portion, and presented at the apex a cavity approximately 3.5 cm. in diameter and containing pus and broken down detritus. The left lung was adherent throughout, weighed 611 grams, and presented at the apex a large cavity and numerous smaller cavities. Throughout entire lung were miliary tubercles. The anterior and posterior mediastinal glands were greatly enlarged. The liver was normal and weighed 1,300 grams. Spleen showed slight increase of connective tissue and weighed 210 grams. The kidneys were normal; the right weighed 210 grams, the left 200 grams. The pancreas was normal and weighed 145 grams. The small intestine presented several tubercular ulcers, both round and annular, involving the submucosa and muscularis. The mesentery presented many caseated glands varying in size from a pea to a marble. The brain was normal and weighed 1,400 grams.

C. E. S.  
W. C. R.  
R. M. W.



## III.

**A. B.**; age 41; nativity, Germany; white; male; admitted to the United States Marine Hospital, Portland, Me., August 29, 1904; died May 17, 1905, at 8.20 a. m.

**HISTORY.**—On August 29, 1904, patient was admitted to this hospital, suffering from a dislocation of the right shoulder and contusion of the right knee. He was discharged as recovered on December 1, and readmitted on December 2, 1905. He was then suffering with a severe cough, associated with which there was considerable expectoration. On physical examination there was marked dullness over apex of left lung, with staccato respiration, moist and crepitant rales and roughened breathing. Over right lung, posteriorly, marked roughened breathing. Respiration 40 to the minute, pulse 120 and irregular, skin bluish; circulation poor; liver much enlarged. Tubercle bacilli found in sputum. The cardiac apex was only slightly displaced to left. May 17, died at 8.20 in the morning.

**NECROPSY.**—The body is that of a white man about 40 years of age; height is about 5 feet 8 inches; muscles fairly well developed. Color generally pale; the posterior parts of the body, the head, trunk, and extremities are ecchymosed. Feet, legs, and abdomen swollen. Rigor mortis fairly well marked. Eyelids closed; pupil of left eye dilated; right eye blind at time of death. No discharge from mouth or nose. Lips closed, bluish in color. Hair of head straight, dark brown in color; numerous scattered gray hairs; slightly bald on top of head. Mustaches fully developed, dark brown in color; eyebrows thick, and like the eyelashes of a dark grayish brown color; iris pale grayish blue. Skin on feet cracked and exfoliating from long confinement to bed. Large ecchymotic area over right knee. The body is opened with a long incision from the chin to the symphysis pubis and the cavity of the abdomen laid open. Considerable adipose tissue; muscles somewhat pale and flabby. The transverse colon and ascending portion of the large intestines are very much distended with gas. All these parts are pale in color. The abdominal cavity contains about 2,000 c. c. of fluid. The sternum is removed. The pericardium is very strongly attached to the chest wall. The right pleural cavity contains about 3,000 c. c. of fluid; port wine in color. In order to remove the heart and pericardium, it is necessary to dissect them from the chest wall. The pericardium is very much thickened and is so closely adherent to the heart muscle that it was impossible to separate them, the two being fused together. The pericardial sac is entirely obliterated. The heart is also firmly united to the lung, and in order to remove it from chest it is necessary to also remove the lung diaphragm. The heart muscle is very much atrophied. Weight of heart, pericardium, lung with bronchial tubes attached, 1,458 grams. No deposits in the aortic or pulmonary arteries. Upper portion of left lung contains tubercular deposits. Right lung oedematous and is divided into three distinct lobes. Weight, 692 grams. The right pleura is very strongly attached to the lung. The spleen is large, hard, and lobulated; dark blue in color; bleeds on section; weight, 304 grams. The left suprarenal gland is dark brown in color; hard and hypertrophied. The capsule is oedematous and very soft; tears on being removed. The left kidney is hard and brown in color. On section the line between the medullary and cortical substance well marked, but thin; weight, 192 grams. The same organ on the right side in much the same condition. Weight, 208 grams. The urinary bladder is empty and contracted. The stomach is dilated; the mucous membrane is congested and covered with punctiform hemorrhages, and in places is partly digested. The pancreas appears normal. The liver is dark brown in color, and has the appearance of a nutmeg liver; on section the tissue is hard and cuts like fibrous tissue. Weight, 1,676 grams. The mesenteric glands are extremely large and are massed together. On section they are yellowish in appearance and contain a caseous substance of the consistency of jelly. The mucous membrane of the small intestine is thick and inflamed, and has several tubercular ulcers on its surface. The appendix is normal.

**CAUSE OF DEATH.**—Chronic pericarditis, with adhesions limiting heart movements.

W. P. M.

## IV.

T. V.; age, 25 years; nativity, Greece; admitted to marine ward, Hospital of St. Vincent de Paul, Norfolk, Va., June 5, 1905, and died on the same day.

History was unobtainable, owing to the serious condition of the patient on admission to the hospital. Captain of the vessel, on which patient was seaman, states that the man suffered with epileptic seizures after leaving Pensacola, Fla., shortly before his admission to hospital at this port. When admitted, patient had a temperature of  $39.2^{\circ}$  C.; pulse 148 and respiration 40 and severe epistaxis shortly afterwards.

NECROPSY (19 hours after death).—Rigor mortis well marked. Heart normal; weight (after opening), 326.5 grams. Lungs: Right, small in size, congested and bound down by adhesions on posterior aspect; weight, 335.4 grams. Tubercles present both on external aspect and on section. Left lung small, congested, and practically the entire lung bound down by adhesions; weight, 404.3 grams. Tubercles present both externally and on section. Abdominal cavity: Intestines distended and discolored; no ulcerations found in small intestines. Spleen enlarged; weight, 684.2 grams. Stomach, normal and empty. Liver, normal; weight, 1,679 grams. Kidneys, normal; right, weight, 171 grams; left, weight, 171 grams.

R. B.

## V.

J. V.; age, 54; a native of Austria; entered the marine hospital at Memphis, Tenn., April 6 and died June 2, 1905.

HISTORY.—There is no family or personal history of importance. He states that he has never had syphilis nor been addicted to alcohol. Present illness began at New Orleans in March of this year, with well-marked intermittent malarial fever. When admitted to this hospital he presented all clinical evidences of chronic malarial infection, chills with temperature every other day, foul tongue, and the presence of intracorporeal parasites. He also stated that there was some diarrhea. Examination of abdomen gave no positive symptoms; the stools were watery and contained undigested food. Under quinine and Fowler's solution the malarial symptoms soon subsided and the patient regained spirits and strength. Owing to the almost total absence of his teeth it was necessary to confine him to soft or liquid diet. Bowel disinfectants and astringents were employed to relieve the persistent diarrhea. Microscopic examinations gave no positive evidence, except particles of undigested food, a few pus and blood cells, but no amœbæ. He complained of no abdominal pain and was always cheerful and hopeful. Emaciation became rapidly progressive and death ensued from exhaustion.

NECROPSY (held 18 hours after death).—Body of adult male, greatly emaciated; hypostasis of dependent portions of body; right mortis slight. Median incision; rectus muscles of dark-greenish hue; the omental apron adherent to the right colon and gall bladder; no general peritonitis, but cavity contains 500 c. c. of yellowish fluid; several contracted reddish areas surrounded by whitish tubercles were noted on the serosa on exposure of intestines, several on the small and numbers on the large gut. About these areas there was no lymph formation. The entire intestinal tract removed and incised; the lower half of the ileum showed a muco-enteritis with three ulcers in the mucosa; that of the colon was marked with numerous ulcerations, more pronounced at the splenic flexure. The membrane between these ulcerated plaques was pale and discolored. The ulcers were evidently at first round, but many had coalesced, forming irregularly shaped plaques; the edges were but slightly undermined, and in many small round ones there was thickening of the mucosa, forming a raised edge. The ulcers were nonperforative, although the process extended to the serosa and showed plainly on this surface, and were generally opposite the mesenteric attachment. There were no evidences of amœbæ, nor could any be found in the scrapings from the ulcers. The glands of the mesentery were generally enlarged. The kidneys were of normal appearance, loosely invested by their capsules; weight, 130 grams each. The liver was small, 1,430 grams, and of good appearance; the capsules of Glisson was intimately adherent to the parenchyma on the under surface of the right lobe and to the peritoneum, these adhesions embracing the right kidney and completely obliterating the foramen of Winslow. The gall bladder was also embraced in this inflammatory mass which surrounded the duodenum and head of the pancreas; the cyst contained two large gallstones, over which it was closely contracted, and the little-contained

bile was of normal appearance; the cystic and ductus communis were patent into the duodenum. The pancreas showed some fibroid changes, but the ducts were patent. The right pleural sac was obliterated over the lower lobe posteriorly, probably an extension of the process about the under surface of right hepatic lobe. The left pleura was normal and there was no deposit of tubercle in the lungs. Pericardium contained 250 c. c. of straw-colored fluid; the heart was microscopically normal.

**ANATOMIC DIAGNOSIS.**—Old adhesive perihepatitis from infection from gall bladder containing stones, and old adhesive pleuritis limited to extension of such infection to the lower right pleura. Recent tuberculous infection of the intestines with ulceration of the walls of large and small gut.

E. W.

## VI.

W. C.; age, 45; nativity, Ireland; occupation, seaman; single; was admitted to the United States Marine Hospital, Cleveland, Ohio, July 2, 1904.

**HISTORY.**—Patient was in hospital last April, and at time complained of pains in chest and abdomen, with some diarrhea. The calves of his legs were swollen, and he had lost some weight. The patient had a slight cough at that time, and raised some material in which the tubercle bacillus could not be found. Patient was discharged much improved. On reentering, July 2, 1904, patient was complaining of pain in his chest, difficulty in breathing, diarrhea, and night sweats. He expectorated rather large quantities of material, which was not characteristic of tuberculosis and in which the bacilli could not be found. The sputum was blood tinged, and the patient was losing weight. The breath sounds over the apices approached the blowing type and below the clavicle increased vesicular. Otherwise negative. The abdomen was tender on palpation, and the liver seemed slightly enlarged, though difficult to outline owing to tenderness over the whole abdomen and lower part of thorax. He was having a profuse watery diarrhea, with some mucus, the stools also failing to show tubercle bacilli or amœbæ coil upon entering the hospital.

**CLINICAL DIAGNOSIS.**—Tubercle of lung was suspected but not confirmed. With the later abdominal manifestations a tentative diagnosis of tubercular peritonitis and enteritis was made. The general condition of the patient was bad. He was much emaciated and failed to respond to treatment.

**NECROPSY** (6 hours after death).—Body somewhat emaciated. Abdomen flat and scaphoid, with small amount of subcutaneous fat. Rigor mortis well marked. Left lung bound down by adhesions posteriorly and at base; tissue normal, with exception of considerable anthracosis; weight, 610 grams; right lung adherent posteriorly and at base; apex cedematous; lower lobe contains a large abscess cavity extending downward through the diaphragm into the right lobe of liver; cavity contained about 1 liter of white, creamy pus, in which no tubercle bacilli or amœbæ could be found. Pericardial sac contained about 50 c. c. clear yellow fluid. Heart normal in appearance; weight, 240 grams; peritoneal cavity contained a purulent fluid, amount not measured; peritoneum shiny in appearance and covered with creamy exudate. The coils of intestine were slightly adherent to each other. Upon making an incision into right lobe of liver large quantities of creamy pus exuded from an abscess cavity which occupied about one-half of right lobe; left lobe cedematous; weight of liver, 1,800 grams. Pancreas normal; weight, 140 grams. The kidneys present no evidence of disease. Right kidney weighed 140 grams; left kidney weighed 150 grams. Brain weighed 1,200 grams; no fluid in ventricles and no capillary congestion present; normal, and no evidence of meningitis present.

**PATHOLOGICAL DIAGNOSIS.**—Tubercle of lung, abscess of lung, abscess of liver, general purulent peritonitis, enteritis.

H. S. M.

## VII.

J. K.; aged 35 years; nativity, Ireland; admitted to the United States Marine Hospital, San Francisco, Cal., November 14, 1903; died July 22, 1904.

**HISTORY.**—This man was an old Fort Stanton patient. He gave no reason for leaving Fort Stanton except that he had been gradually "running down hill" there. He had a profuse diarrhea when admitted, and cough, fever, night sweats, dyspnea, loss of appetite, and other symptoms of tuberculosis. His disease ran the usual course and he died at 10 p. m., July 22, 1904.

**NECROPSY** (12 hours after death).—Length of body, 5 feet 8 inches; greatly emaciated; scar extends along sixth rib on the left side from axillary line to near the vertebral column. On incising the skin over the right fifth intercostal space near the nipple an abscess is opened which contains about 300 c. c. of pus. This abscess communicates through the thorax with a cavity in the lung. Legs oedematous. Brain weight, 1,500 grams; tissue normal. Heart weight, 370 grams; muscle pale red color; segments of mitral valve much thickened; other valves normal. Both lungs adherent to chest walls by strong adhesions. Impossible to remove them from thorax in a complete condition. Their tissue is filled with tubercles, and numerous cavities are present. Spleen weight, 350 grams; color on section, reddish brown; pulp firm; tuberculae prominent. Small quantity of blood exudes from the incised surface. Left kidney: Weight, 205 grams; large quantity of blood exudes upon section; pyramids prominent, outlines well marked; cortical substance of usual thickness; color, dark grayish brown. Right kidney: Weight, 180 grams; condition similar to opposite kidney. Suprarenal glands negative. Bladder empty. The liver is bound to the abdominal wall, the stomach, duodenum, pancreas, and colon by strong adhesions. The gall bladder is atrophied. Weight of liver, 1,750 grams. Tissue cuts with increased resistance. It presents a mottled appearance due to the congested hepatic and anemic portal territories. Stomach, intestines, pancreas, mesentery, appendix, and great vessels normal. Genital organs negative.

W. G. S.

## VIII.

G. W.; colored; age, 32; nativity, Maryland; admitted to United States Marine Hospital, Baltimore, Md., December 29, 1904; died January 2, 1905.

**HISTORY**.—Family history negative. No previous sickness except a chancre sixteen months ago. Has had a severe cough with profuse muco-purulent expectoration for over a year. Night sweats only during past week. Has lost but little weight. Had a hemorrhage for the first time twelve hours before admission. Condition on admission: Very weak; temperature high; respiration rapid and shallow; pulse good. Became delirious two days before death. Physical examination: Right lung shows dullness, with bronchial breathing and numerous moist rales of different sizes. Left lung is hyperresonant anteriorly and laterally, with modified bronchial breathing and numerous fine moist rales. Signs of cavity formation in apex of each lung. Breathing abdominal in type, with no perceptible movement of chest wall.

**CLINICAL DIAGNOSIS**.—Tubercle of lungs, with cavity formation in apices; extensive consolidation of right lung.

**ANATOMICAL DIAGNOSIS**.—Tubercle of lungs; large cavity in each apex; caseous pneumonia, involving middle and lower lobes of right lung.

**NECROPSY** (4 hours after death).—Emaciation not marked. Slight rigor mortis. Pericardial sac contains 75 c. c. of clear straw-colored fluid. Heart weighs 320 grams. Both sides contain much blood, with large chicken-fat clots. Valves normal. Left lung attached to chest wall by a few adhesions anteriorly and posteriorly; weight, 950 grams. In apex is a cavity the size of a hen's egg. Remainder of left lung not much involved. Right lung also attached to chest wall by a few adhesions; weight, 1,010 grams. Apex contains a cavity about the same size as left. Remainder of lung, except lower margin, solidified and grayish in color. Bronchial glands enlarged, but no tubercular process noted in them. Spleen weighs 220 grams. Normal on section. Left kidney weighs 150 grams. Right kidney weighs 155 grams. Both normal. Liver larger than normal; weighs 2,000 grams; normal on section.

C. W. W.

## IX.

E. G.; male; negro; age, 17 years; nativity, South Carolina; admitted to the United States Marine Hospital, Wilmington, N. C., August 19, 1904, having been transferred from Georgetown, S. C., where he was treated for syphilis, secondary, from July 14, 1904, involving the lumbar vertebrae.

**HISTORY**.—Patient denied all knowledge of venereal trouble; but there was evidence of syphilides, and three abscesses in lumbo-sacral region, discharging freely. Was placed on K. I., but was unable to retain it. On August 22, a physical examination revealed consolidation with moist rales at apex right lung. Slight cough and expectoration. Was given creosote, but after the first

few doses was unable to retain it. Treatment thereafter was palliative. Died suddenly of hemorrhage on December 29, 1904.

**NECROPSY** (16 hours after death).—Body of small size, much emaciated, rigor mortis marked. Chest cavity when opened contained 1,000 c. c. of sero-purulent fluid. Heart weighed 210 grams; valves were normal. Left lung weighed 600 grams; was adherent to both thoracic wall and diaphragm. Contained large hemorrhagic infarcts, and numerous small cavities containing tubercular deposit. The whole of the right thoracic wall was much thickened and of a pale yellow hue. The right lung was of the same color throughout, and was filled with caseous matter, but was shrunken beyond all function, weighing only 350 grams. The liver was fatty, enormously enlarged, weighing 1,650 grams, and left lobe was adherent to the diaphragm. Other organs were normal in character.

J. G.

## X.

**B. M.**; negro; age, 26; admitted to the German Hospital, Philadelphia, May 5, 1904, one month ago; and transferred to the Baltimore Marine Hospital May 16, 1904, twenty days ago.

His clinical history shows that he has been troubled with a discharging sinus of the left upper anterior chest wall for the past three years. Upon admission the physical signs are as follows: Impaired resonance over both apices of lungs anteriorly; increased vocal resonance over right apex; bronchial breathing heard over both apices, but especially marked on the right side. Heart normal. Abdomen distended with fluid—not tender. Temperature of the hectic type, averaging a diurnal rise and fall of 2 degrees C. Sudden death, June 5, 1904.

**CLINICAL DIAGNOSIS.**—Caries of second rib, left; tubercle of lungs; tubercle of peritoneum; amyloid and parenchymatous degeneration of kidneys; syphilis, secondary.

**ANATOMICAL DIAGNOSIS.**—Caries of second rib, left; miliary tuberculosis of apices of both lungs, of the spleen, and of the peritoneum; caseous tuberculosis of suprarenal capsules, postperitoneal, mesenteric, and peribronchial glands; amyloid and chronic parenchymatous nephritis; amyloid liver; gastric ulcer (probably tubercular), with hemorrhage into that viscus.

**NECROPSY** (held June 6, 1904, 12 hours after death).—Body of a poorly developed, medium-sized negro. There is a sinus over the left upper chest leading down to a carious second rib. The panniculus adiposus is poorly developed. On section the organs are in normal position and relation. Both pleural cavities are obliterated by adhesions, and both lungs are similarly diseased and may be described together. The apices of both these organs show minute miliary tubercles scattered irregularly throughout them. Beyond this condition, and some hypostatic congestion posteriorly, the lungs do not depart materially from the normal. The peribronchial glands are enlarged; they show caseous necrosis and anthracosis. The pericardium is normal. The heart, though small, is not diseased. It is moderately contracted, and contains but little fluid blood. The great vessels leading from and into the heart contain little blood. The peritoneal cavity contains fully 4,000 c. c. of straw-colored serum, and its visceral and parietal lining membrane is studded with grayish-white, miliary tubercular deposits, varying in size from a minute point to a split pea. The spleen is moderately adherent to the diaphragm and chest wall. It is enlarged, weighing 370 grams, and its surface presents many irregularly distributed dark-red elevations, in size from a pin point to split pea. Their appearance suggests small projecting cysts filled with a sanguinolent fluid; but section shows them to be in all probability an enlarged, swollen, and hemorrhagic condition of the malpighian bodies. These bodies are found to be irregularly distributed throughout the splenic substance, while here and there may be seen numerous yellowish tubercular deposits, which have not as yet undergone caseation. The spleen is firm, and there is an increase of the fibrous framework. The left kidney weighs 230 grams; it is enlarged, swollen, and pale red in color. Its surface of section shows a much-thickened cortex, which is made up of many irregularly shaped, yellowish, and pale-red areas, which are more or less sharply defined from each other. The pyramids are dark red and stand out prominently. The organ macroscopically shows a mixed parenchymatous and amyloid change. The right organ is similarly diseased. The suprarenal capsules are enormously enlarged, being 6 cm. long and 2 cm. in thickness. They each weigh 60 grams. They are firm to the touch, and on section, by naked eye appearance, show entire destruction of their original structure,

which is replaced by a firm yellowish tissue, in which small necrotic areas are visible. This is typical tubercular tissue. The postperitoneal and mesenteric glands are similarly diseased. The liver is only slightly enlarged, weighing 1,720 grams. It is dry on section, and shows many yellowish, bacony, irregular areas scattered throughout its dark-red substance. The organ is the seat of a parenchymatous and amyloid degeneration. The stomach on section shows an irregularly shaped ulcer, about the size of a silver dollar, occupying the lower anterior wall. It has perforated almost to the serous coat, and its edges are slightly raised and overhanging. Near the periphery of this ulcer is seen an eroded and patulous small arteriole, which is responsible for the presence of a large accumulation of clotted blood, fully 1,300 c. c., in the cavity of the stomach.

C. W. W.

## XI.

J. W.; age, 40; native of Tennessee; admitted to the United States Marine Hospital, Louisville, Ky., March 29, 1905; died May 19, 1905.

**HISTORY.**—Family history negative. Patient had been treated here several times in past years for secondary syphilis. He was an epileptic and claimed that he had been so affected for several years following his being overcome by gas while working in a tunnel. Last October he began to cough, lose weight, suffer with indigestion, have chilly sensations, and night sweats.

**EXAMINATION.**—Temperature, 39° C.; pulse, 108; respiration, 22. Talks deliberately, but answers questions with fair intelligence. No heart murmurs discovered. Lungs show dullness of upper portions before and behind with bronchial breathing, also many moist crackling rales over the right lung. Expectoration profuse and mixed with blood. Other organs show no abnormalities.

**CURRENT HISTORY.**—Patient rarely complained but grew steadily weaker. Had a large hemorrhage from lungs on May 18, and died quietly the next day.

**NECROPSY** (5 hours after death).—Body of medium-sized male negro, considerably emaciated and with rigor mortis well established. Brain weighs 1,270 grams. Membranes firmly attached to skull and to brain at apex of the right frontal lobe, in which portion of the brain there was a spot of yellow softening about the size of a pigeon's egg.

Heart, about 500 c. c. of straw-colored fluid in the pericardium; heart itself seems normal. Lungs: No fluid in pleural cavity; both lungs bound down with old adhesions and full of tubercles.

Spleen weighed 135 grams and full of tubercles.

Genito-urinary organs show a stricture in the anterior urethra. Prostate small and fibrous. Kidneys seem to be normal. No other organs examined.

B. W. B.

## XII.

J. O'N.; a white male; age, 39; born in Massachusetts; admitted to the United States Marine Hospital, Chicago, Ill., July 22, 1904.

**CLINICAL DIAGNOSIS.**—Tubercle of lung; died September 16, 1904.

**NECROPSY** (15 hours after death).—Small build; emaciation extreme; rigor mortis present throughout; no traces of body heat over abdomen; hair grizzly; beard and mustache reddish; right pupil larger than left; hypostasis over back of trunk; skin dry and inelastic; panniculus very scant; muscles very small; abdomen scaphoid; penis shows hypospadias; testicles soft; tattoo "J. C." on right forearm, anchor on left; fingers slightly clubbed; arch of feet extremely high; scar in second intercostal space anteriorly; abdominal contents moist and glistening; liver extends finger breadth below costal margin in right nipple line; small amount of fat in great omentum; mesenteric lymph glands slightly enlarged; pericardium contains about 75 c. c. of clear serum. Lungs: Both adherent from apex to base. Left lung: Upper lobe contains cavity size of grape fruit; rest of lung filled with small cavities size of a marble and areas of consolidation; small amount of air-containing lung at base of left lower lobe. Right lung: Contains cavity size of walnut at apex; entire lung thickly studded with tubercles and consolidated areas, between which is a small amount of air-containing lung. Pancreas soft and apparently normal; retroperitoneal lymph glands slightly enlarged. Stomach filled with curds of milk and soupy fluid; walls thin and atonic; contents have odor of gastric juice. Bladder filled with clear amber urine; walls show slight passive congestion. Esophagus shows passive congestion. Larynx, margin, and inner surface of epiglottis ulcerated. True and false vocal cords and arytenoid

cartilages destroyed by ulceration. Trachæ also shows ulcers. Liver: Impression of ribs are seen on liver; the outline of lobules are seen through Glisson's capsule; notches are prominent; cystic duct is patent; gall bladder empty; on section lobules are normal in size and slightly nutmeg in appearance; liver firm in consistency; weight, 1,550 grams. Spleen small, soft consistency; fibrous capsule thickened and wrinkled; one notch; weight, 120 grams. On section the connective tissue is seen to be increased; follicles made out with difficulty. Right kidney, fatty capsule scant; fibrous capsule is adherent; stellate veins injected, firm in consistency, cuts with an increased resistance; cortex pale and connective tissue increased; small sclerosed areas found throughout cortex. Left kidney similar to right; weight of right, 120 grams; of left, 130 grams. Heart: Right ventricle filled with mixed blood clot; left ventricle contains small amount of white clot; heart muscle soft and flabby; sclerosed patches in ascending arch of aorta; mitral valve somewhat thickened; weight, 210 grams. Intestines: Jejunum shows passive congestion, and in it are two large ulcers running parallel with valvulæ conniventes with raised undermined margins; ulcers extend through to serosa, beneath which can be seen many pin-head tubercles. Midway in ileum and again just above ileo-cæcal valves are two large ulcers with long diameter parallel with valvulæ conniventes resembling in character those in jejunum, but much smaller in size; an ulcer as large as a quarter in transverse colon. Arteries: Slight patches of sclerosis around the exit of arteries from abdominal aorta; femoral artery exceedingly sclerotic and filled with atheromatous patches, which crackle when squeezed; radial artery goose neck in appearance.

**PATHOLOGICAL DIAGNOSIS.**—Chronic tubercle of lungs, chronic adhesive tuberculous pleuritis, tuberculous enteritis, tuberculous colitis, arterio-sclerosis and atheroma, tuberculous laryngitis and tracheitis, tuberculous lymphadenitis, dilatation of stomach, interstitial nephritis.

J. W. T.

C. E. B.

### XIII.

E. F.; age, 38 years; nativity, Alabama; colored; admitted to the United States Marine Hospital, New Orleans, La., October 24, 1904; died November 19, 1904.

There is no history of previous illness. He denies syphilis and gonorrhea. Family history negative. He dates his present illness from a cold contracted a month previous to his admission to the hospital. Since that time there has been a cough accompanied by rather copious expectoration, the cough being paroxysmal in nature and especially severe at night. He has continued at his occupation until one week ago. His temperature on the evening of admission was 38.8°. When seen he was having an attack of dyspnoea, resembling in severity an asthmatic seizure, which was only partly relieved by morphine sulphate and nitroglycerine. He was unable to rest in the recumbent position.

*October 25.*—Temperature this morning, 37.6°. He slept but little, owing to the severe cough. There is a very profuse muco-purulent expectoration. The coughing is so severe as to seriously interfere with examination, percussion being impossible. Upon auscultation all sounds are obscured by numberless rales on both sides of the chest, anteriorly and posteriorly. Sputum examined, but tubercle bacilli not found. The urine contains a small amount of albumen; no casts. From the time of his admission to the time of his death the process progressed steadily to a fatal termination. The paroxysms of coughing were almost continuous, any exertion or the taking of food or drink being sufficient to bring on a distressing attack. The expectoration steadily increased in amount and took on a purulent character. Dyspnoic seizures were frequent and severe. His temperature never went above 38.5° (evening). His appetite at all times was good, but he was unable to take much nourishment because of the severe coughing set up by eating. Toward the end of his illness his feet and legs became swollen and oedematous. On the day of his death he was much the same as usual until 9.30 p. m., when he was taken with an unusually severe paroxysm of coughing, fell forward unconscious with muco-pus gushing from mouth and nostrils, expiring at 9.45 p. m., November 19, 1904.

**NECROPSY** (17 hours after death).—A colored male; height, 1.65 meters; development fair; emaciation not marked; feet and legs oedematous. Rigor mortis present. The usual incision from the top of the sternum to the symphysis pubis was made. The subcutaneous fat was scanty, but the muscular structures were of medium thickness, pink in color. Small amount of fluid escaped upon incising pleural sac. The heart is larger than normal, owing

to a hypertrophied condition of the left side of the organ; both cavities empty, with the exception of a few small dark-colored clots in the left ventricle. Mitral valve incompetent. Weight of heart, 320 grams. In removing the left lung from the pleural cavity a portion of the base broke in the hand of the operator. The entire inferior lobe was in a state of consolidation and studded with tubercles; when incised pus oozed forth from numerous small abscess cavities scattered through the lung substance. The superior lobe for the lower two-thirds of its extent presents similar phenomena; the apex is soft, and of a dark red color, having much the appearance of liver tissue. It exudes a yellowish foamy fluid when incised. The area of consolidation in the right lung is greater relatively than in the left, and the same conditions are present—tubercles scattered throughout its substance, abscess formation, and soft oedematous apex. Practically the entire lung is involved. Weight of right lung, 945 grams; left lung, 945 grams. The liver is large, but beyond great congestion presents no abnormality. Weight, 1,918 grams. Spleen, normal; weight, 170. The intestines present nothing of note. The kidneys offer nothing abnormal; weight of right, 170; left, 190. Brain and spinal cord not examined.

F. H. M.

A. C. S.

## XIV.

J. A. B.; age, 54; nativity, Massachusetts.

**HISTORY.**—Transferred from Philadelphia to United States Marine Hospital, Baltimore, Md., August 9, 1904, with a history of tubercle of the lungs of six months' standing. Death February 12, 1905.

**CLINICAL DIAGNOSIS.**—Tubercle of lungs; chronic parenchymatous nephritis.

**ANATOMICAL DIAGNOSIS.**—Chronic pleuritis; chronic fibriloid tuberculosis of upper lobes of both lungs, with cavity formation; acute tubercular bronchopneumonia of lower lobe of left lung; parenchymatous nephritis, with amyloid change; chronic perihepatitis.

**NECROPSY** (19 hours after death).—Shows marked emaciation of body. The left lung, especially the upper lobe, is tightly bound to the chest wall by firm bands of adhesions which are only torn through with difficulty. The organ is of normal consistence, excepting throughout the upper portion of the upper lobe, which shows some small nodular masses distributed throughout its substance. On section, the upper lobe is dark-red in color. In the apex of this lung there are seen four small tubercular cavities, varying from 1 to 3 cm. in diameter. These are surrounded by dense fibrous tissue, from which radiating bands are seen traversing the upper lobe of the lung. Distributed irregularly throughout are seen many small tubercles in various stages of caseation. The mucous membrane lining the larger bronchial tubes is swollen and injected, and there is considerable thickening of their walls. The lower lobe, beyond an area about 5 cm. in diameter, appears quite normal. The area referred to is composed of consolidated lung tissue, dark red in color, firm to the touch, and in its center is seen an irregular area 2 cm. in diameter, yellowish gray in color, evidently undergoing a tubercular change. This process appears to involve the area of distribution of one of the larger bronchial tubules. The left lung weighs 650 grams. The right lung weighs 610 grams. The upper lobe is firmly adherent to the chest wall and is similarly diseased as its fellow. There are but three small cavities here containing semifluid muco-pus, while about these there are distributed many small tubercles in various stages of degeneration. There is much fibrous tissue distributed throughout the lobe, with considerable shrinkage of lung tissue through contraction. The pericardium and contents are normal. The heart weighs 320 grams; it is soft and flabby and shows a pale-red, fat-streaked surface on section. The valve leaflets show no pathological change. The spleen weighs 140 grams and appears normal. The liver is of small size, 1,180 grams in weight; its capsule is thickened and shows several large, stellate scars on its surface. These do not extend deeply into the hepatic substance. Otherwise the organ and gall bladder are normal. The left kidney weighs 90 grams. It is an extremely small, firm, nodular, and pale-red organ. On section, the capsule strips with ease, but carries some cortex with it. The cut surface is extremely pale looking; is smooth and fatty to the touch. The cortex is thin and is not sharply defined from the medullary portion. Portions of this kidney macroscopically show the amyloid reaction. The right kidney is of same weight and is similarly diseased. The other organs of the body appear normal.

C. W. W.



## XV.

W. L. T.; colored; age, 24; nativity, North Carolina; was admitted to United States Marine Hospital, Baltimore, Md., January 20, 1905; died February 13, 1905.

**HISTORY.**—Was treated in this hospital three years ago for nephritis; one year ago for valvular disease of the heart (mitral). Had a chancre between two and three years ago, and was treated in this hospital last winter for secondary syphilis. Left hip was dislocated seven or eight years ago. Present history: Has had a cough for one year; had night sweats for two weeks previous to admission. Claims to have lost over 30 pounds in weight. No pain in chest except on right side when coughing. Had one chill a month before admission, none since. Much muco-purulent expectoration. Physical examination shows evidences of consolidation of the apices of both lungs.

**CLINICAL DIAGNOSIS.**—Tubercle of both lungs, with consolidation of both apices.

**ANATOMICAL DIAGNOSIS.**—Tubercle of both lungs, with consolidation and cavity formation of apices; chronic interstitial nephritis; old fracture of neck of femur with partial dislocation of hip.

**NECROPSY** (22 hours after death).—Body quite emaciated. Rigor mortis very marked. Trochanter of left femur abnormally prominent and head of bone apparently displaced forward. Pericardium contains about 50 c. c. clear fluid, tightly adherent to lungs on both sides. Heart of normal appearance; weight, 320 grams. Edges of mitral valve slightly thickened; other valves normal. Right lung adherent to chest wall, especially at apex; also to pericardium; weight, 1,000 grams. Upper half quite consolidated and dark in color. Hard nodules can be felt all through lung, larger and more numerous in upper half. On section are found several cavities near apex, from the size of a walnut to that of a pea. Tubercles in various stages of caseation diffused all through the lung. Left lung even more adherent than right, especially to pericardium and diaphragm. External appearance and feeling same as other lung. Weight, 780 grams. On section are found several small cavities in apex and a cavity slightly larger than a hen's egg in upper part of lower lobe, on posterior border. Large tubercles in apex, and a very great number of small tubercles in lower lobe. Bronchial glands large, dark, and markedly tubercular. Liver: Weight, 1,740 grams. Quite extensive adhesions to diaphragm and adjacent viscera. Normal in appearance and on section. Gall bladder moderately distended. No amyloid degeneration. Right kidney: Weight, 113 grams. Capsule strips very easily, showing dark, granular appearance of cortex. On section, pyramids well marked, substance pale, but blood vessels injected and very distinct. Left kidney weighs 130 grams. Similar in appearance to the right organ. Other viscera examined and appear normal. The head of the left femur is found deformed by an old, oblique, united fracture of the neck, making direction of neck horizontal. The neck is thickened and irregular. Articular surface of head very irregular. The acetabulum is indented on its anterior wall, forming a partial new acetabulum.

C. W. W.  
W. H. F.  
I. H.

## XVI.

J. McC.; age, 58; male; white; nativity, England; was admitted to hospital December 15, 1904, complaining of cough, dyspnea, and great loss in weight. He had considerable fever, and was immediately put to bed. He seemed very stupid and answered questions vaguely. No satisfactory history could be taken. Much of the time he was delirious. Temperature varied from below normal to 39° C., usually low in the morning and highest in the evening. His cough was severe. Sputum very thick, tenacious, greenish yellow, mucopurulent. He continually soiled bedding and clothing with sputum. Both lungs were comparatively dull on percussion, and contained moist rales over entire extent. Breathing was bronchial, except at bases. Emaciation was extreme. Sputum contained tubercle bacilli in large numbers. He died on January 12, 1905.

**NECROPSY** (36 hours after death).—Body, emaciated; hair, scant; pupils, equal; panniculus and musculature, scant; skin, inelastic; chest, fairly deep, but very narrow; rigor mortis present. Body heat, absent; hypostatic congestion over back; no scars; no deformities. Abdominal contents moist and glistening, omentum adherent to ventral wall. Ensiform cartilage Y-shaped. Vermiform appendix, 11½ cm, long and located behind the cecum. Intestines and mesentery

show passive congestion. Mesenteric lymph glands enlarged. Stomach and omentum adherent to parietal peritoneum in splenic region. Larynx, posterior surface ulcerated, also ulcer above false cords laterally. Thyroid gland small. Anterior mediastinum negative. Lungs: Left, adherent to thorax throughout, cavity size of apple in apex, nodules and areas of consolidation throughout upper lobe, and many in lower lobe. Right lung, adherent to thorax throughout, several small cavities varying in size from pea to marble in upper and middle lobe, two upper lobes quite solid with infiltrated areas and nodules. Lower lobe also contained many nodules and tubercles. Small amount of air-containing tissue in both lungs, mostly in lower lobes. Pericardium contained 10 cc. clear serum. Heart: Right ventricle contained a mixed clot, left ventricle a white clot. Subpericardial fat, normal, consistency of myocardium firm. Liver shows markings of ribs, Glisson's capsule thickened in areas, consistency firm, cuts with increased resistance, lobules diminished in size. Weight, 1,450 grams. Spleen, small, consistency soft, follicles made out with difficulty. Weight, 180 grams. Kidneys: Left small, consistency medium, fatty capsule scant, fibrous capsule peels easily. Small depressions or pits in cortex, which show reddish-brown discoloration beneath, stellate veins injected, passive congestion of cortex, pyramids contain yellowish nodules, which cut with gritty feel. Right kidney similar to left. Weights, right, 100 grams; left, 120 grams. Stomach contained milk curds and fluid with odor of gastric juice. Pancreas apparently normal. Adrenals show post-mortem degeneration. Bladder contained small amount of clear urine. Testes, small and soft.

DIAGNOSIS.—Chronic pulmonary tuberculosis, chronic adhesive tuberculous pleuritis, chronic peritonitis, general senile atrophy, lymph adenitis.

J. W. T.  
C. E. B.

## XVII.

A. G.; aged 32 years; nativity, Finland; color, white; male; admitted to the United States Marine Hospital, San Francisco Cal., April 11, 1903. Died, October 3, 1904, at 3 p. m.

HISTORY.—Has had trouble with lungs for at least two years. Nothing unusual in history. Had been in higher altitudes, but believed he did not benefit. Outdoor treatment at this hospital. Had been given tuberculin, X-ray, and inhalation treatment. During residence in hospital had several hemorrhages. Prior to death had no rise of temperature for long period. Was up and around and in fairly good flesh. Early in the morning of day of death had pulmonary hemorrhage, soon lapsed into coma, and never regained consciousness.

NECROPSY (22 hours after death).—Body of white male, apparently about 33 years of age. Rigor mortis well developed. Body fairly well nourished. Post-mortem suffigation present. There is a Y-shaped scar on the left side of thorax, about 5 cm. to left of and on a line with the tip of the ensiform cartilage, the three arms of the "Y" extending (1) toward the left nipple; (2) toward the ensiform; (3) toward anterior superior spine of left ilium; each arm about 6 cm. in length. Tattoo marks: Internal surface right forearm, "Z. A. Gunn," within a scroll. Brain: Weighs 1,280 grams; blood vessels normal; free fluid in lateral ventricles; tissue normal. Lungs: Fill thoracic cavity, covering most of the heart. Left lung: Adhesions, old, tough, at apex; weight, 585 grams. Crepitant, except at extreme apex, where there is a cavity as large as a peach, lined with a thick grayish membrane. Remainder of left lung in good condition, except for a few scattered tubercles. Right lung: Dense adhesions bind it posteriorly to chest wall, inferiorly and internally to diaphragm and pericardial sac; weight, 515 grams. Entire upper lobe consolidated, except for few moderate sized cavities, the largest of which, about the size of a plum, contains a dark blood clot. Heart: Weighs 400 grams. Ante-mortem clot extending from aorta backwards into the ventricle, and entangled about chorda-tendinae of mitral valve. Left ventricular wall 1.5 cm. thick. Right ventricular wall .75 cm. thick. Ante-mortem clot also in right ventricle. Valves normal. Liver: Weighs 1,905 grams; shows "nutmeg" condition in parts. Gall bladder: Full of bile. Spleen: Weighs 170 grams; color on section a dark purplish-red; consistency moderate. Right kidney: Weighs 165 grams; congested; pyramids not prominent; cortical substance shows yellowish gray markings. Left kidney: Weighs 175 grams; tissue markings same as in right kidney. Bladder: Contains clear urine. Urethra: Previous. Stomach: Large and small intestine normal.

J. M. H.  
W. G. S.

## XVIII.

G. D.; age, 33; nativity, New York State; was admitted to United States Marine Hospital, Cleveland, Ohio, October 24, 1904, and died November 14, 1904.

**HISTORY.**—Father died of old age. Mother died of heart failure. Two sisters died of tubercle of lung. Two sisters living and well. Patient was treated in hospital in 1902 for chronic synovitis of knee joints; discharged improved. Present illness dates back two months. Patient began to cough, appetite was poor, had night sweats, shortness of breath, and loss in weight. Was admitted to hospital, where a diagnosis of tubercle of lung was made by tubercle bacilli being found in the sputum.

**PHYSICAL EXAMINATION.**—Inspection showed supra and infra clavicular spaces on right side much sunken, clavicle more prominent on right, expansion very poor. Dullness on percussion more marked on right side. Auscultation râles heard all over right side very plainly, as far down as fourth rib and extending into axilla.

**NECROPSY** (6 hours after death).—Emaciation was very marked. Skin over whole body presented a pale yellowish appearance. On opening thorax, heart was found to be normal; weight 420 grams. The plura was adherent on both sides, more adherent on right side. Left lung was normal, except small inflamed area at upper lobe near apex. Right lung showed a large cavity, entire apex had collapsed, and on opening a small amount of pus was found in cavity. Whole lung was shrunken and infiltrated with cheesy material and tubercular nodules. Abdomen: Spleen was found to be perfectly normal. Liver was normal, weight 1,430 grams. The mesenteric glands were enlarged and hard. The stomach was normal in size and color. A small round scar was found near lesser curvature in the mucosa, which resembled a healed ulcer. The intestines were normal. The pancreas was normal. The kidneys were also normal; left kidney weighed 10 grams more than right. Both kneejoints were much enlarged. The brain was not examined.

H. S. M.

## XIX.

C. H.; aged 28 years; nativity, Virginia; admitted to marine ward, Hospital of St. Vincent of Paul, Norfolk, Va., May 9, 1905; died May 19, 1905.

**PERSONAL HISTORY.**—Present illness began last November, when patient had an attack of pneumonia. He has never been well since, but has worked at intervals. Attacks of shortness of breath prevented him from further work, and this condition compelled him to seek entrance to a hospital for treatment. Loss of appetite, insomnia, and a feeling of nervousness, with cough in the early part of the evening and during the day, followed.

**PHYSICAL EXAMINATION.**—Eyes dull; cheeks hollow; tongue coated; mouth dry; skin dry and hot. Lungs: Mucous râles; pleuritic adhesions with crepitant and subcrepitant râles over both lungs.

**NECROPSY** (34 hours after death).—Rigor mortis well marked. Body emaciated. Heart: Weight (after opening), 330 grams. All valves normal. Lungs: Left bound down posteriorly by firm adhesions. Tubercles on parietal layer of pleura. Superficial surface of lung shows miliary tubercles. No cavities. Weight, 950 grams. Right lung, section reveals a large cavity in lower portion of upper lobe. Substance of the whole lung studded with tubercles, miliary in size. Weight, 920 grams. Abdominal cavity: Spleen enlarged; dark bluish in color. Weight, 210 grams. Liver: Substance normal in appearance and consistency. Weight, 1,800 grams. Kidneys normal; left, weight, 210 grams; right, weight, 225 grams. Appendix bound down by adhesions to post-abdominal wall.

R. B.

## XX.

E. N.; aged 26 years; nativity, Finland; color, white; male; admitted to the United States Marine Hospital, San Francisco, Cal., May 24, 1904. Died October 11, 1904, at 6.35 a. m.

**HISTORY.**—Ill over three years. Was a patient at Fort Stanton from October 9, 1901, to April 30, 1904. Frequent attacks of diarrhea. Between three and four weeks prior to death had a severe pulmonary hemorrhage, and was not able to be about afterwards.

**NECROPSY** (4½ hours after death).—Body of white male, generally emaciated. Post-mortem lividity well marked, rigidity not marked. Pupils even. Tattoo

marks: On chest, full-rigged ship; on right forearm, external surface, heart, cross and anchor within a star; internal surface, full-rigged ship within life-buoy, surrounded by flags and eagle; left forearm, external surface, eight-pointed star, initials "E. N.—1878;" left forearm, internal surface, crossed flags. Brain weighs 1,420 grams; normal. Abdominal cavity contains large quantity of transparent straw-colored fluid; abdominal fat scanty; abdominal wall 1 cm. thick. Left lung weighs 802 grams; adhesions at extreme apex, fairly easily broken down; lung floats; greater part of upper lobe riddled with cavities, the largest being the size of a plum; lower part of upper lobe and lower lobe full of nodules; no cavities in lower lobe. Right lung weighs 1,410 grams; adhesions over entire surface, most of which are easily broken up; contains cavities and nodules from apex to base; one cavity as large as an apple; cavities full of viscid, tenacious, muco-pus. Heart weighs 405 grams; left ventricular wall 2 cm. thick; left ventricle contains post-mortem clot; mitral valve covered with warty growths; right ventricular wall 1.5 cm. thick. Liver weighs 1,835 grams; cuts with increased resistance. Gall-bladder contains bile, no stones. Spleen weighs 450 grams; passively congested. Appendix vermiformis completely buried beneath mesentery; could only be exposed after incision through meso-colon. Other organs normal.

J. M. H.  
W. G. S.

## XXI.

L. F. G.; aged 33 years; white; nativity, Michigan; male. Admitted to United States Marine Hospital, San Francisco, Cal., June 1, 1903. Died 12.45 a. m., September 29, 1904.

HISTORY.—Had been previously treated at this station; at Seattle, Wash.; St. Louis, Mo., and Fort Stanton, N. Mex. Was discharged from Fort Stanton August 17, 1902, as improved.

NECROPSY (10½ hours after death).—Body of white adult male. Apparently about 35 years of age. Emaciation marked. Ankles are œdematous. Rigor mortis only slightly developed. Tattoo marks on right forearm, external surface, a dagger and star; internal surface, a wreath surrounding "Hope;" also flags and shield; on left forearm, external surface, bust of sailor, flags, sails, and star; internal surface, clasped hands and flag; on left little finger, also left middle finger, imitation rings. Abdominal fat, scanty; color, bright yellow. Right lung, attached to anterior chest wall; it is one mass of cavities. Left lung, also strongly adherent and contracted; full of nodules; has no visible cavities. Heart: Weight, 250 grams. Left ventricular wall, 1.5 cm. thick. Small post-mortem clot in left ventricle. Mitral valve thickened. Right ventricle contains small post-mortem clot. Liver weighs 1,365 grams. Gall bladder contains small amount of viscid bile; no stones. Right kidney weighs 120 grams. Capsule strips readily; cortex pale; medulla congested. Left kidney weighs 220 grams. Cortex thicker than right, otherwise condition is similar. Spleen weighs 225 grams. Hyperplasia of interstitial tissue. Brain weighs 1,395 grams. Small amount of fluid in lateral ventricles. Tissue somewhat softened. Larynx removed. No congestion, inflammation, or ulceration. Color, pale; condition apparently good. Other organs normal.

J. M. H.  
W. G. S.

## XXII.

W. A. P.; age, 52; nativity, Maine; white; male; admitted to the Marine Hospital, Portland, Me., June 25, 1904; died December 5, 1904.

HISTORY.—Patient complains of pains and extreme tenderness in the chest, especially on the left side, in the axilla and across the back. Has a severe cough, with considerable expectoration and profuse night sweats, the latter being especially marked on the upper half of the body. Upon exertion he experiences great difficulty in breathing. He is very weak and has lost considerable weight of late. Stomach is irritable and he is unable to retain solid food. During the past month and a half his cough has become worse, pains sharper, and expectoration more profuse and streaked with blood. Has had several hemorrhages, and his general condition is rapidly growing worse. Bowels are regular; appetite poor. No specific history. Died December 5, 1904.

NECROPSY.—Body of medium size and greatly emaciated; white male; cicatrix over right knee; right leg slightly swollen. Both feet œdematous. Post-

mortem discoloration in the most dependent parts of the body, the eyelids partially closed, pupils dilated, no discharge from mouth or nose; hair of head abundant, straight, gray in color; beard, slight and gray in color; eyebrows, long and shaggy. Slight discharge from penis; also from anus. Body opened by a long incision from the chin to the symphysis pubis. Vessels in neck are empty. Larynx and trachea ulcerated and covered with sticky mucus; cartilage of ribs ossified. Both pleuræ strongly adherent. Diaphragm found attached between eighth and ninth rib. The heart, small and contracted, weight, 240 grams. Ante-mortem clot found in right ventricle. Aortic valve competent. Mitral valve thickened. Tricuspid, same. Atheromatous patch in ascending portion of aorta. Lungs are gray in color; hypostatic congestion in dependent parts. On section, upper lobe of right lung found infiltrated with tubercle and containing a small cavity; weight, 990 grams. In left lung infiltration more pronounced than that found in right. A cavity about size of a goose egg found in apex; also a large one in middle lobe. Weight, 1,600 grams. Bronchial glands much enlarged and cheesy. Liver is small; slight bloody exudation on section; liver tissue rather friable; weight, 1,472 grams. Gall bladder distended, bile duct occluded, bile light yellow in color and thick in consistency. Suprarenal capsules degenerated and gelatinous. Right kidney pale; capsule peels off easily. Kidney substance hard; line between medullary and cortical portion well defined; weight, 160 grams. Left kidney pale; capsule peels off easily; substance hard; line between medullary and cortical substance well marked; weight, 160 grams. Bladder contains about an ounce of water. Opening of urethra normal. Bladder substance normal. Slight lateral curvature of the spine. Spleen mottled and gray in color, with old hemorrhagic infarct. Intestines distended with gas; mesenteric glands enlarged. Pancreas weighs 64 grams. Appendix long and contains mucous and intestinal concretions. Cause of death: Tuberculosis.

F. L. Q.  
W. P. M.

### XXIII.

P. McC.; aged 34 years; nativity, Ireland; male; white; unmarried. Admitted to United States Marine Hospital, San Francisco, Cal., September 28, 1904; died November 6, 1904, at 6 a. m.

HISTORY.—Had been transferred from United States Marine Hospital, Port Townsend, Wash., preliminary to transfer to Fort Stanton Sanatorium. Had been sick one year. Vomited, (?), blood once. Dyspnea marked. Bronchial breathing and large moist rales over both apices. Broncho-vesicular breathing, with few rales, over both bases. Vocal fremitus and resonance increased on both sides.

NECROPSY (8½ hours after death).—Body that of a white male, apparently about 33 years of age. Some emaciation, especially of chest and upper extremities. Post-mortem suffusion present. Height, about 5 feet 7 inches. Brain weighs 1,230 grams; excessive amount of fluid in ventricles; brain substance normal. Abdominal fat moderate in amount. Abdominal wall, 2.5 cm. thick. Left lung weighs 1,050 grams; both lobes full of nodules and cavities, none of latter large; very little healthy lung tissue remaining. Right lung weighs 1,220 grams; adhesions over upper part; condition similar to that of left lung, except latter had no adhesions. Heart weighs 465 grams; myocardium contains excessive amount of fat; left ventricular wall, 1.5 cm. thick; right ventricular wall, 0.5 cm. thick; post-mortem clots in all cavities; all valves normal; aorta smooth; free fluid in pericardial sac. Liver weighs 1,920 grams; cuts with increased resistance; color much lighter than normal; gall bladder contains yellowish-green bile, but no calculi in bladder or ducts. Peritoneal covering of intestines moist. Areas within small intestines actively hyperæmic. Appendix normal. Left kidney weighs 160 grams; pale in color; marking between cortex and medulla indistinct; capsule strips readily. Right kidney weighs 150 grams; paler than normal; markings between cortex and medulla normal; capsule strips readily. Spleen weighs 175 grams; soft and pale. Other organs normal.

ANATOMICAL DIAGNOSIS.—Tubercle of both lungs. Inflammation of pleura, right side. Inflammation of intestines, acute, tubercular.

J. M. H.  
W. G. S.

## XXIV.

P. F.; age, 55; nativity, Scotland; admitted to United States Marine Hospital, Baltimore, Md., February 21, 1905; died June 5, 1905.

**CLINICAL HISTORY.**—Father died of apoplexy. Patient had malaria eight years ago; pneumonia, ten years ago. He was taken early in January with rheumatic fever, for which he was admitted to hospital. This soon subsided, but he had a subsequent attack early in April. Three days after admission he had a severe attack of tonsillitis. Early in March he was taken with acute bronchitis and pleurisy, limited at first to the right side, the left side becoming affected to a less degree later. Subsequently there were noted signs of effusion into the right pleural cavity, from which 600 c. c. of clear fluid were removed on May 14 and 1,600 c. c. three days later. Moderate evening elevation of temperature. Examination for tubercle bacilli negative. Mitral and aortic systolic murmurs on admission. Albuminuria with casts.

**NECROPSY** (5 hours after death).—Right pleural cavity contains about 500 c. c. of clear fluid. Lung bound to chest wall and diaphragm by dense adhesions. Caseous necrosis of bronchial glands. Small portion of upper lobe adjacent to root of lung infiltrated with miliary tubercles. Remainder of lung normal, except for oedema. Weight of right lung, 600 grams. Left lung bound to chest wall behind by moderately firm adhesions. Upper lobe oedematous. Lower lobe congested; otherwise normal; glands normal. Weight of left lung, 450 grams. Heart weighs 345 grams. Thickening of mitral and aortic segments. Aorta dilated and shows small patches of atheromatous change. Similar patches noted on endocardium of left ventricle. Liver weighs 2,730 grams. Infiltrated with miliary tubercles. Spleen weighs 730 grams. Infiltrated with miliary tubercles. Left kidney weighs 220 grams. Pale in color. Capsule strips easily. Cortex of normal thickness. Right kidney weighs 225 grams; same as left kidney. Tubercle bacilli were demonstrated in right lung, liver, and spleen.

L. L. W.

## XXV.

S. B.; aged 38 years; nativity, Georgia; color, black; deckhand; single.

**PERSONAL HISTORY.**—Has had dysentery, gonorrhoea, syphilis, inguinal adenitis, rheumatism, dislocation of right ankle, laryngitis, and pharyngitis. Has had pneumonia and pleurisy. He thinks he has had tuberculosis about six months; has had afternoon fever, severe cough, and profuse expectoration. Has noticed no dyspnoea or night sweats. Had no hemorrhages. Admitted to Fort Stanton Sanatorium June 27, 1904; died July 20, 1904.

**NECROPSY.**—Died July 20, 1904; necropsy held July 21, 1904. Color, black; slender build; emaciated; body heat absent; rigor mortis present; hair scant; pupils equal; teeth fair; chest fairly well formed, emaciated; abdomen slightly depressed below level of ribs; skin dry and inelastic; congestion over back and buttocks; subcutaneous fat small in amount; musculature small. Abdominal content moist; peritoneum smooth and glistening; liver extends two finger breadths below costal margin on right side; omentum poorly supplied with fat; mesenteric vessels congested; mesenteric lymph glands slightly enlarged; retroperitoneal lymph glands greatly enlarged; abdominal aorta negative. Chest cavity: Anterior mediastinum negative; pericardial sac contains a small amount of clear serum. Left lung adherent to chest wall by very firm adhesions from apex to base. Right lung adherent down to fourth rib. Lungs: Right upper lobe is honeycombed with cavities; middle lobe is consolidated; lower lobe contains consolidated areas, is infiltrated with tubercles and is oedematous. Left cavity in apex size of an orange, remainder of lung consolidated and infiltrated to base. Heart: Both ventricles contain white clots; clots extend into auricles; mitral valve somewhat thickened; other valves normal. Small sclerotic patches in the beginning of the aorta. Left ventricle slightly dilated. Heart weighs 235 grams. Bladder, prostate; pancreas, supra-renal glands, negative. Stomach contains a few areas of hyperemia. Liver: Weight, 1,750 grams, somewhat enlarged; gall bladder very small, and contains a small amount of bile; cystic duct patent. On section liver is pale. Spleen: Weight, 425 grams; considerably enlarged; capsule thickened; moderately firm. On section fibrous tissue greatly increased and no follicles can be made out. Right kidney: Weight, 115 grams; capsule thin; kidney is small, fibrous capsule is adherent; stellate veins injected; glomeruli apparent to the naked eye; near base of one of the pyramids is a nodule

about the size of a No. 4 shot. Left kidney: Weight, 140 grams; similar in all respects to right save for absence of nodule mentioned above. Intestines: Cæcum full of ulcers, which extend into the sigmoid flexure. Larynx: One-half of epiglottis is destroyed by ulceration, under surface is rough and granular, and shows several eroded areas. Vocal cords greatly eroded; at posterior extremity of left vocal cord there is an ulcer which has partly eroded the cartilage; bed of ulcer dark and mottled in appearance. Trachea has a granular and pigmented appearance.

MICROSCOPICAL EXAMINATION.—Liver: Passive congestion; fatty change; connective tissue increased; a number of millary tubercles and round-cell infiltration, many of which are completely walled off with connective tissue. Spleen: Tuberculous foci and caseated areas throughout and connective tissue increased; atrophic; minute quantities of amyloid. Kidneys: Glomeruli enlarged; passive congestion; slight cloudy swelling of parenchyma; amyloid degeneration.

PATHOLOGICAL DIAGNOSIS.—(a) Chronic ulcerative phthisis; (b) tuberculosis of pleura, larynx, liver, and spleen; (c) chronic passive congestion of liver and kidney; (d) amyloid spleen and kidney.

H. G. E.  
P. M. C.

## XXVI.

J. G.; age, 39 years; color, black; admitted September 30, 1904; died February 20, 1905.

FAMILY HISTORY.—Mother and brother died of tuberculosis.

PERSONAL HISTORY.—Pneumonia; syphilis; previous known duration of tuberculosis, six months.

PHYSICAL EXAMINATION (January 5, 1905).—Right lung, anteriorly bronchovesicular breathing above and below clavicle; pleuritic friction sounds at third and fourth ribs. Right lung, posteriorly faintly marked bronchial breathing to third rib; whispering pectoriloquy at apex. Left lung, anteriorly breath sounds roughened at apex. Left lung, posteriorly pleural friction sounds over entire lung, except at apex. Sputum contains tubercle bacilli.

NECROPSY.—Died February 20, 1905, 11.15 a. m.; necropsy February 21, 1905, 1.30 p. m. Medium build; color, black; much emaciated; skin over shins and chest scaly; right hypochondriac region depressed; rigor mortis present throughout; body heat absent. Subcutaneous fat small in amount; musculature, poor; abdominal cavity contains a considerable quantity of clear amber fluid; peritoneal surfaces very granular in appearance; the omentum shows a large tumor mass, flattened in outline; there is also a second growth of some character in the neighborhood of the cæcum. Retroperitoneal and mesenteric lymph glands enlarged; the abdominal aorta shows sclerosis. Right lung: Weight, 500 grams; shows hypostatic congestion; otherwise negative. Left lung: Weight, 1,230 grams; large cavity at apex and a few small cavities in the lower lobe; remainder of lung is consolidated. Heart: Weight, 240 grams; mitral valve is slightly contracted. Liver: Weight, 165 grams; negative. Spleen: Weight, 190 grams; enlarged, firm, and dark in color; shows numerous whitish areas of irregular outline; lugole solution shows minute specks of amyloid. Kidneys, negative; right, weight 186 grams; left, weight 180 grams. Intestines show ulceration of ileum and cæcum; appendix about seven inches long and very thin; intestines were so matted together that removal was impracticable. They were opened in situ. Pancreas considerably indurated. Adrenals, bladder, and prostate negative. Larynx shows ulceration and infiltration.

MICROSCOPICAL EXAMINATION.—Omental tumor is a tuberculous mass of omentum. Pancreas is negative. Liver shows congestion, increase of fibrous tissue, and beginning fatty infiltration. Kidneys negative. Spleen shows increase in connective tissue and beginning amyloid degeneration of follicles.

DIAGNOSIS.—Tuberculosis of the lungs, larynx, intestines, and peritoneum; congestion and beginning fatty infiltration of liver; beginning amyloid degeneration of spleen; beginning sclerosis of aorta.

H. G. E.  
J. B. G.

## XXVII.

L. S. R.; age, 53 years; color, white; admitted December 3, 1904; died February 1, 1905. Previous duration of tuberculosis, four months.

**PHYSICAL EXAMINATION.**—Small area bronchial breathing above clavicle over right lung anteriorly. Bronchial breathing, whispering pectoriloquy, and roughened expiration over right lung posteriorly. Moist rales and friction sounds in left lung anteriorly. Moist rales, bronchial breathing, and whispering pectoriloquy to seventh rib, and friction sounds to base in left lung. Sputum contains tubercle bacilli.

**NECROPSY.**—Died February 1, 1905, 9.45 p. m.; necropsy February 2, 1905, 1.30 p. m. Somewhat emaciated, rigor mortis present throughout, body heat absent, hypostatic congestion over back, considerable oedema of legs, healed ulcer of left leg, pupils moderately dilated and equal. Musculature fair, subcutaneous fat small in amount, liver comes to costal margin right side, peritoneal surfaces apparently normal, mesenteric glands enlarged, slight sclerosis of aorta. Right lung: Weight, 1,220 grams; adherent to diaphragm, upper lobe infiltrated throughout, contains many small cavities size of hazelnuts; lower lobe is oedematous, with scattered tubercles throughout. Left lung almost entirely excavated, with just a lining of lung tissue to pleural cavity. Liver: Weight, 1,880 grams; shows passive congestion, otherwise negative. Spleen: Weight, 180 grams; negative. Left kidney: Weight, 176 grams; large white kidney. Right kidney: Weight, 155 grams; same as left. Intestines: Ileum and caecum contain many ulcers. Stomach, pancreas, adrenals, bladder, prostate, and larynx, negative. Heart: Weight, 270 grams; pericardial sac contains about 60 c. c. clear fluid, edges of mitral valve are somewhat thickened, beginning sclerosis of arch of aorta.

**DIAGNOSIS.**—Tuberculosis of lungs and intestines. Parenchymatous nephritis.

H. G. E.  
J. B. G.

## XXVIII.

N. R.; aged 26 years; color, mulatto; admitted September 6, 1904; died February 4, 1905. Previous duration of tuberculosis not given.

**PHYSICAL EXAMINATION.**—Right lung, breath sounds muffled over upper half of chest anteriorly and posteriorly. Sputum: Tubercle bacilli present.

**NECROPSY.**—Died February 4, 1905, at 2 a. m.; autopsy held February 4, 1905, at 1.30 p. m. Rigor mortis present throughout, some hypostatic congestion over back, pupils moderately dilated and equal, epididymis enlarged and hard and on section shows yellowish growth. Abdominal section: Musculature and subcutaneous fat well preserved. Liver lacks three fingers' breadths of coming to costal margin. Bladder greatly distended extends to umbilicus. Peritoneal surfaces moist and glistening. Mesentery and omentum contain much fat. Right lung: Weight, 700 grams; adherent at apex, cavity size of walnut at apex, contains a few caseous tubercles, organ is markedly anthracosed. Left lung: Weight, 645 grams; much anthracosed, but otherwise negative. Heart: Weight, 250 grams; small and contracted, otherwise negative. Liver: Weight, 1,509 grams; shows apparent increase of connective tissue and passive congestion. Right kidney: Weight, 160 grams; contains number of whitish areas in cortex. Left kidney: Weight, 140 grams; negative. Spleen: Weight, 440 grams; large, firm, and granular on section. Intestines: A few scattered ulcers throughout ileum and caecum. Stomach, pancreas, adrenals, bladder, and prostate are negative. Larynx negative. Brain: Weight, 1,329 grams; considerably congested, ventricles contain considerable blood-tinged turbid fluid with flakes of fibrin. Some exudate upon surface of brain and in fissure of sylvius.

**MICROSCOPICAL EXAMINATION.**—Liver shows tubercles. Spleen shows tubercles and necrotic areas. Kidneys show large tuberculous necrotic areas. Epididymis is tuberculous.

**DIAGNOSIS.**—Tuberculosis of lungs, liver, spleen, kidneys, and intestines, and acute cerebral congestion.

H. G. E.  
J. B. G.



## XXIX.

D. S.; age, 51 years; color, white; admitted June 18, 1904; died February 22, 1905.

**FAMILY HISTORY.**—Mother had tuberculosis. Previous duration of tuberculosis, five months. Physical examination, December 22, 1904. Right lung, anteriorly: Bronchial breathing throughout; broncho-vesicular in axilla; large area of amphoric breathing and whispering pectoriloquy from first interspace to fourth rib. Right lung, posteriorly: Whispering pectoriloquy and amphoric breathing to third rib; bronchial breathing to eighth rib, and broncho-vesicular breathing to base. Left lung, anteriorly: Bronchial breathing to third rib, scattered moist rales just below. Left lung, posteriorly: Whispering pectoriloquy at apex; bronchial breathing to fourth rib; broncho-vesicular breathing to sixth rib. Sputum: Tubercle bacilli present.

**NECROPSY.**—Died February 22, 1905, 11.15 p. m.; autopsy February 23, 1905, 1.30 p. m. Emaciation extreme; hypostatic congestion over back; "M. Smith" tattooed on right forearm; old fracture of right tibia; glands of right groin enlarged; pupils dilated and equal; rigor mortis present; body heat absent. Abdominal section: Musculature and subcutaneous fat small in amount; peritoneum dark colored but moist and glistening; mesenteric and retro-peritoneal lymph glands enlarged; vessels of mesentery and intestinal walls are congested; some sclerosis of abdominal aorta. Right lung markedly adherent throughout. Upper lobe contains a cavity the size of an orange; lower lobes are infiltrated throughout. There are several cavities in the anterior part of lower lobes. Left lung markedly adherent throughout. Weight, 750 grams; apex contains a cavity the size of a walnut filled with pus; remainder of lung is infiltrated and contains caseous areas. Heart: Weight, 210 grams; negative save for a few sclerotic patches in beginning of aorta. Liver: Weight, 1,770 grams; markedly adherent to diaphragm; shows amyloid degeneration. Spleen: Weight, 290 grams; shows amyloid degeneration. Left kidney: Weight, 130 grams; capsule slightly adherent; light-colored spot in cortex; otherwise negative. Right kidney: Weight, 125 grams; same as left, save lacks spot mentioned in cortex. Intestines ulcerated from lower ileum to rectum; appendix dilated and filled with pus. Stomach: Mucous membrane is congested. Pancreas, adrenals, bladder, and prostate are negative. Larynx: Vocal cords and arytenoids show ulceration.

**DIAGNOSIS.**—Tuberculosis of the lungs, larynx, and intestines. Amyloid degeneration of liver and spleen. Beginning sclerosis of aorta.

H. G. E.  
J. B. G.

## XXX.

H. J.; age, 42; color, negro; admitted December 10, 1904; died April 14, 1905.

Previous duration of tuberculosis, eight months. Personal history of pneumonia, grip, malaria, typhoid, and syphilis. Family history: Father died of tuberculosis. Physical examination March 7, 1905. Right lung, anteriorly: Bronchial breathing and whispered pectoriloquy to second interspace. Posteriorly pectoriloquy to third rib. Left lung, anteriorly: Bronchial breathing and faint whispered pectoriloquy to second rib; broncho-vesicular breathing to fourth rib; posteriorly bronchial and broncho-vesicular breathing to seventh rib. Heart negative. Sputum, no tubercle bacilli. Urine, sediment heavy, no albumen.

**NECROPSY.**—Died April 14, 1905, 7.45 p. m.; autopsy April 15, 1905, at 1.30 p. m. External appearances: Black, medium build, much emaciated, pupils equal and somewhat dilated, rigor mortis present throughout, body heat absent. Abdominal section: Musculature and subcutaneous fat small in amount; peritoneal surfaces appear normal; liver comes two fingers' breadth below costal margin; mesenteric and retroperitoneal lymph glands enlarged. Heart: Weight, 205 grams; rather small, but otherwise negative. Lungs: Right adherent throughout and occupied almost entirely by a large abscess cavity; left apparently normal. Liver: Weight, 1,192 grams; left side of organ flattened, is dark in color, nutmegged on section; shows passive congestion. Spleen: Weight, 122 grams; is small; no follicles visible; an apparent increase of connective tissue. Kidneys: Right, weight, 123 grams; fibrous capsule is adherent; cortex pale; glomeruli visible; stellate veins injected. Left, weight, 130 grams; same as right. Intestines: Vessels of small intestines much injected; some ulceration

of cæcum and ascending colon. Stomach is considerably enlarged. Pancreas, adrenals, bladder, and prostate, negative. Larynx negative.

MICROSCOPICAL EXAMINATION.—Liver and spleen negative. Kidneys show some increase in connective tissue.

DIAGNOSIS.—Tuberculosis of lungs and intestines.

H. G. E.  
P. M. C.

### XXXI.

J. P. R.; age, 39 years; color, white; admitted September 18, 1904; died February 11, 1905.

Family history, negative; personal history, syphilis; previous known duration of tuberculosis, three months.

PHYSICAL EXAMINATION.—Right lung, bronchial breathing and moist râles throughout upper two-thirds of lung; whispering pectoriloquy posteriorly. Left lung, bronchial breathing to nipple, broncho-vesicular below and moist râles throughout. Strong cardiac impulse in third left interspace with greatly accentuated pulmonic second sound. Prolonged aortic first sound. Sputum, tubercle bacilli present; urine, negative.

NECROPSY.—Died February 11, 1905; autopsy, February 13, 1905. Large build, fairly well nourished, rigor mortis present throughout, hypostatic congestion over back; at lower end of sternum is a soft fluctuating tumor about the size of a walnut, which on section contains about 10 c. c. of pus-like material. Abdominal section: Subcutaneous fat abundant; musculature good; peritoneal surfaces appear normal; there are some small sclerotic patches in abdominal aorta. Right lung, adherent to second rib, is infiltrated throughout with tubercles. Left lung, adherent throughout, incision shows it to consist of single cavity containing pus. Heart: Weight, 445 grams; pericardial sac contains about 50 c. c. clear fluid; right ventricle contains a small, white clot; left ventricle contains a currant-jelly clot. Mitral valve shows vegetations and chordæ tendinæ are contracted and shortened; right ventricular wall is thin and cavity dilated. Spleen: Weight, 381 grams; enlarged and much notched, shows increase of connective tissue and white mottling throughout. Liver: Weight, 2,305 grams; surface shows numerous scars, increase of connective tissue, and areas that are translucent on section. Left kidney: Weight, 191 grams; enlarged; shows passive congestion. Right kidney: Weight, 155 grams; shows passive congestion; cortex contains two small cysts size of buckshot. Stomach shows congestion. Intestines, pancreas, adrenals, bladder, prostate, and larynx, negative.

MICROSCOPICAL EXAMINATION.—Kidneys, some increase of connective tissue and passive congestion. Liver, increase of connective tissue, passive congestion, beginning fatty infiltration. Spleen, some increase of connective tissue.

DIAGNOSIS.—Tuberculosis of lungs, interstitial hepatitis with beginning fatty infiltration, interstitial nephritis, right kidney cystic, mitral insufficiency, and beginning sclerosis of aorta.

H. G. E.  
J. B. G.

### XXXII.

S. D.; aged 59 years; color, white; admitted December 1, 1902; died March 4, 1905. Previous duration of tuberculosis not given.

HISTORY.—Mother died of tuberculosis; father of pneumonia.

PHYSICAL EXAMINATION.—Right lung, anteriorly bronchial breathing to third rib, friction at base of axilla; posteriorly bronchial breathing to fourth rib, roughened expiration throughout. Pleural friction at base. Left lung, anteriorly, breath sounds replaced by friction râles. Whispered pectoriloquy under inner end of clavicle; posteriorly whispered pectoriloquy at apex; pleural friction throughout; expiration roughened. Heart: Apex beat displaced outward, but no murmur audible. Sputum: Tubercle bacilli present. Urine: Albumen present.

NECROPSY.—Died March 4, 1905, 7.30 p. m.; autopsy, March 6, 1905, 11.20 a. m. Fairly well nourished; medium build; rigor mortis present throughout; body heat absent; hypostatic congestion over back of trunk and limbs. Lymphatics show red and distinct with great enlargement in region of groin and over penis. Scrotum bright red in color. Ballet girl tattooed on left forearm. Abdominal section: Subcutaneous fat and musculature fair in amount, costal cartilages ossified. Peritoneal surfaces normal, omental and mesenteric fat large in amount, liver reaches to costal margin, abdominal aorta shows con-

siderable atheroma. Right lung: Upper lobe contains nodules and lower lobe is congested. Left lung: Adherent throughout, contains a cavity the size of a coconut. Heart: Weight, 250 grams; pericardium contains a thin layer of fibrin, valves are apparently normal, aorta shows some sclerosis. Liver: Weight, 1,875 grams, amyloid liver. Spleen: Weight, 215 grams, shows amyloid degeneration. Right kidney: Weight, 250 grams, large white kidney, cortex pale yellow, pyramids bright red and congested. Left kidney: Weight, 260 grams, same as right. Stomach, intestines, pancreas, adrenals, bladder, and prostate are negative.

**MICROSCOPICAL EXAMINATION.**—Kidneys show amyloid degeneration and increase of connective tissue, hyaline casts in tubules and degeneration of tubular epithelium. Liver shows amyloid degeneration. Spleen shows amyloid degeneration.

**DIAGNOSIS.**—Tuberculosis of lungs, amyloid degeneration of kidneys, liver, and spleen, parenchymatous nephritis, sclerosis of aorta, and fibrinous pericarditis.

H. G. E.

P. M. C.

## XXXIII.

H. R.; age, 37; color, white; admitted April 5, 1904; died April 12, 1905. Previous duration of tuberculosis not recorded. Family history negative.

**PHYSICAL EXAMINATION** (March 29, 1905).—Right lung, anteriorly bronchial breathing to fourth interspace. Whispered pectoriloquy at apex. Posteriorly broncho-vesicular breathing throughout. Left lung, anteriorly bronchial breathing to third rib, broncho-vesicular breathing below, whispered pectoriloquy from apex to third rib. Posteriorly bronchial breathing at apex, broncho-vesicular below. Friction sounds scattered irregularly. Heart, negative. Sputum, tubercle bacilli present. Urine, large quantities albumen; few granular casts.

**NECROPSY.**—Died April 12, 1905, 11.40 p. m.; autopsy, April 13, 1905, 1.30 p. m. Short and rather stout in build; bruise and abrasion over left malar eminence; hypostatic congestion over back of trunk and limbs; pupils equal and of medium size. Rigor mortis present throughout; body heat absent. Abdominal section: Musculature good, and subcutaneous fat well preserved; intestinal peritoneum covered with numerous tubercles and fibrin; vessels injected; mesenteric fat, large in amount; liver extends two fingers' breadth below costal margin; abdominal aorta shows atheromatous patches; mesenteric lymph glands enlarged. Heart: Weight, 310 grams; pericardial sac contains about 30 c. c. clear amber fluid; heart negative. Lungs: Right, adherent throughout; infiltrated throughout, especially the upper lobe, with considerable fibrous tissue at apex; left, two small cavities size of walnut in apex; whole lung is infiltrated with fibrous tissue and tubercles. Liver: Weight, 1,890 grams; is firm and waxy in appearance, but does not give amyloid reaction. Spleen: Weight, 500 grams; enlarged; firm and pale on section; filled with small irregular whitish areas. Kidneys: Right, weight, 290 grams, large white kidney; left, weight, 230 grams, same as right. Intestines: Lower part of ileum is bound down by adhesions to surrounding parts; peritoneum is covered with tubercles varying in size from a pin point to a pea; peritoneal vessels injected. Mucosa of ileum shows a few small ulcers. Stomach, pancreas, adrenals, bladder, and prostate are negative. Larynx negative. Brain: Weight, 1,490 grams; vessels show great congestion throughout; otherwise negative.

**MICROSCOPICAL EXAMINATION.**—Liver and spleen negative. Kidneys show amyloid degeneration of glomeruli; tubules contain casts; tubular epithelium shows degeneration.

**DIAGNOSIS.**—Tuberculosis of lungs and intestines. Acute meningeal and cerebral congestion. Amyloid degeneration of kidneys and parenchymatous nephritis. Beginning atheroma of aorta.

H. G. E.

P. M. C.

## XXXIV.

B. J. M.; age, 21 years; color, white; admitted November 7, 1903; died March 20, 1905. Previous duration of tuberculosis not given.

**PHYSICAL EXAMINATION** (January 11, 1905).—Right lung, anteriorly muffled bronchial breathing to third rib; posteriorly broncho-vesicular breathing to seventh rib. Left lung, anteriorly amphoric breathing over second and third ribs, bronchial breathing apex to fourth rib, broncho-vesicular breathing to sixth rib, pleuritic friction especially in axilla; posteriorly bronchial breathing to about fifth rib. Sputum: Tubercle bacilli present.

**NECROPSY.**—Died March 20, 1905, 7.15 a. m., autopsy March 20, 1905, 1.30 p. m. Medium build, emaciation extreme, hypostatic congestion over back, pupils dilated, rigor mortis absent, some body heat present. Abdominal section: Musculature and subcutaneous fat small in amount, edge of liver reaches to umbilicus, peritoneal surfaces normal in appearance, mesenteric glands enlarged, accessory spleen found size of an almond, abdominal aorta negative. Right lung: Weight, 840 grams, cavity size of an orange at apex, smaller cavities and consolidated areas throughout. Left lung: Weight, 740 grams, cavity size of an orange at apex, tubercles and consolidation throughout. Heart negative. Liver: Weight, 2,330 grams, shows amyloid degeneration, gall bladder small and contains small amount of bile, cystic duct patent. Left kidney: Weight, 110 grams, fibrous capsule is adherent, just beneath capsule is a cyst about size of a pea, which contains pyoid material, parenchyma shows presence of amyloid. Right kidney: Weight, 115 grams, cortex is paler than left, no cysts present, otherwise similar to left. Spleen: Weight, 225 grams; shows amyloid degeneration; accessory spleen also shows amyloid degeneration. Intestines: Throughout the ileum are small nodules with a whitish cap projecting into gut; small ulcers are present from cæcum to sigmoid flexure. Intestines show amyloid reaction with Lugols' solution. Stomach small in size, otherwise negative. Pancreas, adrenals, bladder, prostate, and larynx are negative.

**MICROSCOPICAL EXAMINATION.**—Kidneys show tuberculous necrotic areas. Spleen shows amyloid degeneration. Accessory spleen shows amyloid degeneration. Liver shows amyloid degeneration.

**DIAGNOSIS.**—Tuberculosis of lungs, kidneys, and intestines, amyloid degeneration of liver, spleen, accessory spleen, and intestines.

H. G. E.

P. M. C.

## XXXV.

J. B.; aged 40 years; color, white; admitted May 31, 1904; died April 1, 1905. Previous duration of tuberculosis, nine months.

**PHYSICAL EXAMINATION** (February 20, 1905).—Right lung, anteriorly bronchial breathing to second interspace, whispered pectoriloquy well marked under clavicle and faintly in second interspace; posteriorly bronchial breathing to sixth rib, whispered pectoriloquy over same area. Left lung, anteriorly bronchial breathing to first interspace, amphoric breathing to fourth interspace, whispered pectoriloquy above clavicle and from second to fourth interspace; posteriorly prolonged expiration to fifth rib, whispered pectoriloquy to sixth rib, both faint. Slight friction in places. Sputum, tubercle bacilli present. Urine albumen present.

**NECROPSY.**—Died April 1, 1905, 6.30 p. m.; autopsy April 3, 1905, 1.30 p. m. Medium build, fairly nourished, slight hypostatic congestion over back, pupils dilated and equal, rigor mortis present throughout, body heat absent. Abdominal section: Musculature and subcutaneous fat fair in amount, peritoneal surfaces apparently normal, omental and mesenteric fat well preserved, mesenteric and retro-peritoneal lymph glands enlarged, abdominal aorta shows a few sclerotic patches, upper mediastinum shows a few enlarged lymph glands. Heart: Weight, 340 grams; pericardial sac contains no free fluid. Heart full of white clot, valves all apparently normal, beginning aorta shows considerable sclerosis. Right lung adherent to fourth rib, apex contains a cavity the size of a lemon, several small cavities and consolidated areas in upper lobe, remainder of lung has consolidated areas scattered throughout. Left lung adherent throughout, cavity size of orange in apex, smaller cavities throughout remainder. Liver: Weight, 2,580 grams, large and waxy in appearance, apparently amyloid. Spleen: Weight, 175 grams, light in color, follicles prominent, apparently amyloid. Right kidney: Weight, 265 grams; large white kidney. Left kidney: Weight, 285 grams; same as right. Intestines ulcerated throughout, some of the ulcers the size of a half dollar. Stomach, pancreas, adrenals, bladder, prostate, and larynx are negative.

**MICROSCOPICAL EXAMINATION.**—Liver and spleen show amyloid degeneration; kidneys show amyloid degeneration and parenchymatous nephritis.

**DIAGNOSIS.**—Tuberculosis of lungs and intestines, amyloid degeneration of liver, spleen, and kidneys, beginning atheroma of aorta and parenchymatous nephritis.

H. G. E.

P. M. C.

## XXXVI.

J. A. J.; aged 30 years; color, white; admitted December 26, 1904; died March 26, 1905. Previous duration of tuberculosis, two years.

PHYSICAL EXAMINATION (March 18, 1905).—Right lung, anteriorly broncho-vesicular breathing to second rib, whispered pectoriloquy above clavicle. Posteriorly bronchial breathing, and whispered pectoriloquy to third rib. Left lung, anteriorly breath sounds absent, creaking friction throughout. Posteriorly, same. Heart: Loud systolic mitral murmur. Sputum: Tubercle bacilli present.

NECROPSY.—Died March 26, 1905, 5.45 p. m.; autopsy March 27, 1905, 1.30 p. m. Medium build; fairly well nourished chest above nipples, and back livid; some rigor mortis present; slight amount of body heat present; pupils dilated and equal; abdomen tense. Musculature and subcutaneous fat fair in amount; peritoneal surfaces normal in appearance; liver reaches to costal margin. Mesenteric and omental fat fair in amount; abdominal aorta shows one or two patches of beginning sclerosis. Heart: Weight, 250 grams; shows an atheromatous patch on the mitral valve; heart is filled with white clot; a few sclerotic patches in beginning of aortic arch; about 50 c. c. clear amber fluid in pericardium. Left lung: The apex contains a cavity the size of a lemon; there are scattered tubercles and caseous areas throughout remainder of lung. Right lung: Pleural surfaces are covered with buttery exudate, and the pleural cavity contains a foul-smelling greenish-yellow fluid. The lung has scattered tubercles throughout. Liver: Weight, 1,560 grams; is almost waxy in consistency, but does not give amyloid reaction; contains lighter irregular areas of considerable size. Spleen: Weight, 140 grams; soft; pulpy; shows slight increase of connective tissue. Kidneys: Left, weight 110 grams; right, 115 grams; negative. Intestines: There is one ulcer in upper ileum. Pancreas, adrenals, bladder, and prostate are negative. Stomach dilated, but otherwise negative.

DIAGNOSIS.—Tuberculosis of lungs and intestines, beginning atheroma of aorta, and right pyo thorax.

H. G. E.  
P. M. C.

## XXXVII.

T. A. M.; age, 29; color, white; admitted October 15, 1904; died April 21, 1905. Previous duration of tuberculosis, two years.

PHYSICAL EXAMINATION (January 16, 1905).—Right lung: Anteriorly bronchial breathing above clavicle, amphoric breathing below to second interspace, bronchial and broncho-vesicular below to base; voice sounds transmitted at apices anteriorly and to third rib posteriorly. Left lung: Bronchial breathing at apex, broncho-vesicular below to base. Sputum: Tubercle bacilli present. Urine: Sediment and albumen; pus cells.

NECROPSY.—Died April 21, 1905; autopsy, April 22, 1905, at 1.30 p. m. Much emaciated; hypostatic congestion over back; pupils equal; rigor mortis present throughout; body heat absent. Abdominal section: Musculature and subcutaneous fat small in amount; peritoneal surfaces normal; external appearances of intestines show ulceration within; abdominal aorta negative. Right lung: Weight, 720 grams; slightly adherent; upper lobe contains several small cavities and is much infiltrated; lower lobe negative. Left lung: Weight, 600 grams; upper lobe contains several small cavities; lower lobe contains two communicating cavities size of lemons. Heart: Weight, 250 grams; mitral valve shows slight thickening, otherwise organ is negative. Liver: Weight, 1,490 grams; somewhat pale in color, otherwise negative. Spleen: Weight, 205 grams; negative. Right kidney: Weight, 220 grams; pale in appearance and shows a small tubercle on section. Left kidney: Weight, 310 grams; very largely made up of caseous tubercles, which have partly broken down. Stomach: Pancreas, adrenals, and prostate are negative. Bladder: Greatly distended; otherwise negative. Intestines: Ulcerated throughout the small intestine and cæcum; few ulcers in ascending colon.

H. G. E.  
P. M. C.

## XXXVIII.

J. C.; age, 31; color, white; admitted September 7, 1904; died March 27, 1905; previous duration of tuberculosis five years.

PHYSICAL EXAMINATION (December 24, 1904).—Right lung: Anteriorly bronchial breathing throughout with pleural friction; posteriorly bronchial breathing throughout. Left lung: Anteriorly bronchial breathing and pleural

friction as on right, but less marked; posteriorly bronchial breathing and whispered pectoriloquy at apex and probably below. Pleural friction sounds throughout. Heart: Accentuation of pulmonic second sound. Sputum: Tubercle bacilli present.

**NECROPSY.**—Died March 27, 1905, 8.15 p. m.; autopsy March 28, 1905, 1.30 p. m. Medium build, rather emaciated, hypostatic congestion over back of trunk and limbs, pupils dilated and equal, rigor mortis present, body heat absent. Abdominal section: Musculature rather poor, subcutaneous fat only fair in amount, peritoneal surfaces normal in appearance, abdominal aorta negative. Heart: Weight, 340 grams; mitral valve shows one or two plaques the size of a pin head; otherwise negative. Right lung: Adherent throughout; the upper lobe contains numerous small cavities and a large amount of fibrous tissue; the lower lobes are infiltrated with tubercles. Left lung: Is but slightly adherent; the apex contains several small cavities; lower lobe infiltrated with caseous tubercles. Liver: Weight, 1,970 grams; passive congestion, "nutmeg liver." Spleen: Weight, 360 grams; shows increase of connective tissue and passive congestion. Right kidney: Weight, 185 grams; shows slight congestion. Left kidney: Weight, 170 grams; same as right. Intestines: Show a few congested patches; otherwise negative. Stomach, pancreas, adrenals, bladder, prostate, and larynx are negative.

**MICROSCOPICAL EXAMINATION.**—Liver: Shows increase of connective tissue, congestion and atrophy of parenchyma. Spleen: Shows some increase of connective tissue.

**DIAGNOSIS.**—Tuberculosis of lungs and interstitial hepatitis.

H. G. E.  
P. M. C.

### XXXIX.

J. M.; age, 58 years; color, white; admitted December 3, 1904; died January 22, 1905.

**PERSONAL HISTORY.**—Yellow fever, typhoid fever, grip. Previous known duration of tuberculosis, three months. Physical examination: Right lung, anteriorly whispering pectoriloquy below clavicle, bronchial breathing to third rib; breath sounds absent to base. Right lung, posterior bronchial breathing and patches of obscure whispering pectoriloquy to fourth rib; broncho-vesicular breathing to eighth rib. Left lung, roughened expiration at apex anteriorly and posteriorly. Sputum contains tubercle bacilli.

**NECROPSY.**—Large build, general edema, some body heat, hypostatic congestion over back, pupils equal. Abdominal section: Musculature fair, subcutaneous fat oedematous, liver does not quite reach to costal margin right side; bladder reaches to umbilicus, peritoneal surfaces seem normal, mesenteric fat oedematous, mesentery and omentum oedematous. Right lung: Weight, 850 grams; apex moderately adherent, lower pleura contains some fluid, lung is infiltrated with caseous tubercles throughout, several small cavities at apex. Left lung: Weight, 1,130 grams; comparatively free from adhesions; lung is markedly congested and oedematous, apex contains caseous tubercles, lower lobe very slightly involved. Heart: Weight, 365 grams; valves are apparently normal; aorta shows beginning sclerosis. Liver: Weight, 1,710 grams; surface covered with yellowish splotches; on section appearance is mottled, considerable contrast between light and dark portions, does not give amyloid reaction, gall bladder large, cystic duct patent. Right kidney: Weight, 210 grams; shows slight congestion. Left kidney: Weight, 220 grams; same as right. Spleen: Weight, 170 grams; shows increase of connective tissue. Intestines, adrenals, and prostate: Negative. Bladder markedly distended, otherwise negative. Pancreas somewhat small and slightly hard.

H. G. E.  
P. M. C.

### XI.

B. B.; age, 42 years; color, black; admitted March 25, 1902; died January 10, 1905.

**PERSONAL HISTORY.**—Asthma for eight or ten years. Previous duration of tuberculosis not given. Physical examination: Whole right side markedly dull, also upper half of left. Right lung: Bronchial breathing to fourth rib anteriorly and to eighth rib posteriorly, moist râles below. Whispering pectoriloquy to first interspace anteriorly and to fifth rib posteriorly. Heart: Systolic murmur heard loudest at apex and aortic region. Sputum: Tubercle bacilli present.

**NECROPSY.**—Autopsy held January 11, 1905, at 1.30 p. m. Medium build, much emaciated, pupils dilated and equal, body heat absent, rigor mortis present throughout, hypostatic congestion over back. Abdominal section: Musculature and subcutaneous fat small; peritoneal surfaces normal in appearance; liver extends two finger breadths below costal margin; very little fat in omentum; adhesions between ascending and transverse colon; stomach enlarged; mesenteric lymph glands are enlarged and mesentery shows passive congestion; abdominal aorta shows beginning sclerosis. Left lung: Apex slightly adherent; weight, 805 grams. Right lung: Adherent throughout, contains many cavities and is infiltrated with tubercles and consolidated areas throughout. Heart: Weight, 310 grams; mitral and tricuspid valves thickened, some sclerosis of beginning aorta. Glands of mediastinum somewhat enlarged. Liver: Weight, 1,410 grams; shows passive congestion. Spleen: Weight, 140 grams; some increase of connective tissue. Right kidney: Negative, weight 140 grams. Left kidney: Negative, weight 135 grams. Pancreas, adrenals, and prostate, negative. Bladder enlarged and filled with urine; otherwise negative. Intestines, a few ulcers in lower jejunum and upper ileum. Larynx: Epiglottis ulcerated away and true vocal cords and arytenoid regions ulcerated.

**DIAGNOSIS.**—Tuberculosis of lungs, larynx, and intestines. Beginning sclerosis of aorta.

H. G. E.  
J. B. G.

## XXI.

P. O.; aged 49 years; color, white; admitted April 2, 1904; died March 5, 1905. Previous duration of tuberculosis not given.

**PHYSICAL EXAMINATION.**—Right lung: Anteriorly whispering pectoriloquy to first interspace, bronchial breathing to third rib, pleural friction throughout; posteriorly whispering pectoriloquy to fourth rib, bronchial breathing to sixth rib, broncho-vesicular breathing to ninth rib. Left lung: Anteriorly negative except for slight roughening on expiration under clavicle and few pleural friction sounds throughout; posteriorly pleural friction sounds and bronchial breathing to fourth rib. Sputum: Tubercle bacilli present.

**NECROPSY.**—Died March 15, 1905, at 9.15 p. m.; autopsy March 16, 1905, at 1.30 p. m. Medium build, slightly emaciated, hypostatic congestion over back, pupils equal, right chest somewhat depressed, iodine stain over lower left chest, rigor mortis present throughout, slight amount of body heat present. Abdominal section: Musculature and subcutaneous fat moderate in amount, peritoneal surfaces appear normal, mesenteric fat plentiful, mesenteric lymph glands enlarged, abdominal aorta shows sclerosis. Right lung: Adherent throughout, apex filled with small cavities, remainder of lung infiltrated with tubercles and consolidated areas. Left lung: Cavity size of hazel nut at apex, congested, and infiltrated with tubercles throughout. Liver: Shows passive congestion; weight, 1,820 grams. Spleen: Weight, 225 grams; shows increase of connective tissue. Left kidney: Weight, 190 grams; negative, cortex very narrow. Right kidney: Weight, 180 grams; same as left. Intestines: Ulcerated throughout lower jejunum and upper ileum. Stomach: Shows passive congestion. Pancreas, adrenals, bladder, and prostate are negative. Heart: Weight, 340 grams; enlarged and pale yellow in color, parietal pericardium shows a large milk spot. Wall of left heart shows apparent fatty degeneration. Mitral valve is thickened and contains calcareous nodules. Aortic valve is also thickened and contains fibrous nodules.

**MICROSCOPICAL EXAMINATION.**—Kidneys: Negative. Spleen: Millary tubercles and increase of connective tissue. Liver: Shows millary tubercles. Heart wall: Increase of connective tissue and some atrophy of muscle cells.

**DIAGNOSIS.**—Tuberculosis of lungs, liver, spleen, and intestines. Sclerosis of cardiac valves and degeneration of cardiac walls. Sclerosis of aorta.

H. G. E.  
J. B. G.

## XLII.

A. R.; aged 22 years; white; admitted May 8, 1904; died November 11, 1904. Duration of tuberculosis about nine months.

**PHYSICAL EXAMINATION.**—Tubular breathing over both upper lobes, broncho-vesicular remainder of lungs, large moist râles throughout. Friction sounds over right upper lobe and over heart. Cavernous breathing left apex to nipple. Heart normal. Urine contains albumen, sediment heavy. Sputum contains tubercle bacilli.

**NECROPSY.**—Died November 11, 1904, 6.35 p. m.; necropsy, November 12, 1904, at 1.30 p. m. Slender build, much emaciated, rigor mortis present throughout, body heat absent, pupils dilated and equal, hypostatic congestion over back of trunk and legs. Abdominal section: Subcutaneous fat very small in amount, musculature small; abdomen contains a large amount of clear yellow serum, with flakes of yellowish fibrin, border of liver comes to costal margin. Mesenteric and retro-peritoneal lymph glands much enlarged; abdominal aorta negative. Spleen: Weight, 162 grams; congested; dark in color; connective tissue increased; gives amyloid reaction with Lugol's solution. Kidneys: Left, weight, 187 grams; fatty capsule small in amount and fat undergoing degeneration; fibrous capsule strips easily; stellate veins injected; vessels are congested, glomeruli seen as reddish pin points. Right, weight, 166 grams; similar to left. Liver: Weight, 2,350 grams; enlarged; anterior border much notched; friable on section and filled with amyloid; gives reaction with Lugol's solution. Gall bladder enlarged and distended with bile. Heart: Weight, 226 grams; pericardial sac contains about 200 c. c. of clear fluid; heart rather small; walls thin; contains white clot; two small sclerotic patches in ascending aorta; valves normal. Intestines: Small intestines contain numerous ulcerated patches throughout; show four perforations, two of which are the size of a quarter, the other not more than 1 to 2 mm. in diameter. Stomach shows passive congestion. Adrenals somewhat dark in color, otherwise negative. Pancreas, bladder, and prostate negative. Lungs: Left, adherent throughout; the upper lobe contains a cavity which easily admits the closed first. Right, adherent at apex, which contains two cavities, the larger size of a lemon; posteriorly the lung is infiltrated with tubercles and contains small calcareous masses. Larynx and vocal cords are considerably eroded.

**MICROSCOPICAL EXAMINATION.**—Kidneys show parenchymatous nephritis and amyloid degeneration. Liver shows amyloid degeneration. Spleen shows amyloid degeneration.

**DIAGNOSIS.**—Tuberculosis of lungs, larynx, and intestines, amyloid degeneration of kidneys, liver, and spleen, and parenchymatous nephritis.

H. G. E.  
P. M. C.

### XLIII.

J. H.; died September 26, 1904; age, 38 years; white; admitted August 1, 1904.

**FAMILY HISTORY.**—Negative. Duration of tuberculosis about three months. Physical examination showed bubbling râles and pleuritic clicks over entire left chest, breath sounds almost absent at apex. Slight prolongation of breath sounds and occasional râles at right apex, voice transmission decreased at both apices. Heart normal. Urine negative. Sputum showed tubercle bacilli.

**NECROPSY.**—Died September 26, 1904, at 5.30 p. m.; autopsy held September 27, 1904, at 1.30 p. m. Rigor mortis present throughout, hypostatic congestion on all dorsal surfaces, pupils moderately dilated, conjunctivae pale, musculature fair in amount, hair scant. Subcutaneous fat fairly well preserved, peritoneum moist and glistening, omentum contains about usual amount of fat, liver comes to costal margin, there is some excess of peritoneal fluid, bladder size of an orange, mesentery contains considerable fat, abdominal aorta negative. Liver: Weight, 1,790 grams; shows congestion of interlobular veins, lobules easily seen, central zone somewhat congested. Spleen: Weight, 205 grams; soft, flabby on section, shows increased fibrous tissue and only occasional follicles. Kidneys: Right, weight, 192 grams; fatty capsule apparently normal, kidney dark in color, fibrous capsule strips easily, stellate veins injected, glomeruli visible, passive congestion. Left, weight, 192 grams; similar to right. Adrenals, stomach, intestines, pancreas, bladder, and prostate normal. Chest cavity: Pyopneumothorax left side. Pericardial sac contains about 75 c. c. of fluid. Heart: Weight, 325 grams; about normal in size, mitral valve shows beginning sclerosis, one or two patches of beginning sclerosis in arch of aorta, otherwise normal. Lungs: Right, weight, 1,570 grams; upper lobe consolidated, lower lobes show infiltration, whole lung somewhat congested. Left (not taken out), large cavity at apex, consolidated and contracted throughout.

**DIAGNOSIS.**—Tuberculosis of lungs; pyopneumothorax, left side; beginning atheroma of aorta.

H. G. E.  
P. M. C.



## XLIV.

J. H.; age, 26 years; negro; admitted July 1, 1903; died December 4, 1904.

**FAMILY HISTORY.**—Mother died of tuberculosis. Duration of tuberculosis unknown. Physical examination: Right lung pectoriloquy at apex and at inner border of scapula posteriorly, bronchial breathing and moist rales throughout. Left lung pectoriloquy at apex posteriorly, bronchial breathing in upper half and moist rales to below nipple. Heart: Occasional palpitation. Urine: Negative. Sputum: Contained tubercle bacilli.

**NECROPSY.**—Died December 4, 1904, 3.30 a. m.; autopsy at 1.30 p. m., December 5, 1904. Color black, slender build, much emaciated, pupils dilated and equal, hypostatic congestion over back, some enlargement of right knee joint. Rigor mortis beginning to disappear, body heat absent. Abdominal section: Musculature and panniculus scant, considerable amount of fluid in abdominal cavity, mesentery and omentum contain a fair amount of fat, mesenteric and retro-peritoneal lymph glands enlarged, numerous small white nodules visible under peritoneal coat of intestines. Kidneys: Left, weight, 160 grams; pale in color; stellate veins injected; capsule strips easily. Right, weight, 150 grams; similar in all respects to left. Spleen: Weight, 650 grams; much enlarged; contains numerous large caseous tubercles and shows amyloid degeneration. Liver: Weight, 1,500 grams; yellowish in color; lobules indistinct; gall bladder normal, cystic duct patent. Intestines: Ulcerated throughout. Pancreas: Pale in color. Bladder: Distended with clear urine, minute hemorrhages beneath mucous coat. Prostate: Negative. Pericardial sac: Contains about 35 c. c. clear yellowish-green fluid. Heart: Mitral and tricuspid valves thickened and aorta contains atheromatous patches. Lungs: Left, weight, 445 grams; cavity at apex; upper part of lung is infiltrated. Right, weight, 571 grams; contains cavity at apex and one lower down posteriorly; middle lobe contains an area of gelatinous looking material; lung is infiltrated throughout. Larynx: A small ulcer at anterior end of right vocal cord.

**MICROSCOPICAL EXAMINATIONS.**—Spleen: Shows areas of tuberculous necrosis and amyloid degeneration. Pancreas: Negative. Kidneys: Show beginning amyloid degeneration. Liver: Shows miliary tubercles, slight fatty infiltration, and amyloid degeneration.

**DIAGNOSIS.**—Tuberculosis of lungs, larynx, intestines, spleen, and liver. Amyloid degeneration of liver, spleen, and kidneys. Beginning fatty infiltration of liver. Thickening of mitral and tricuspid valves and beginning sclerosis of aorta.

H. G. E.  
P. M. C.

## XLV.

J. H.; age, 30; white; admitted September 21, 1904; died November 19, 1904. Personal history, negative. Family history, negative. Duration of tuberculosis about ten months. Physical examination showed bronchial breathing over upper two-thirds of left lung, pectoriloquy in third interspace, moist rales throughout. Right lung broncho-vesicular respiration at apex. Heart, negative. Urine, negative. Sputum contained tubercle bacilli.

**NECROPSY.**—Died November 19, 1904, 9.55 p. m.; autopsy November 21, 1904, 1.45 p. m. External appearances: Slender build, much emaciated, chest narrow, rigor mortis present throughout, left pupil slightly larger than right, both dilated, body heat absent, hypostatic congestion present in dependent parts. Abdominal section: Subcutaneous fat scant, musculature small, omentum contains fair amount of fat, floccules of fibrin on peritoneal surface of intestines, considerable turbid fluid in peritoneal cavity, several complete perforations of intestines with adhesions. Abdominal aorta apparently normal. Spleen: Weight, 105 grams; passive congestion and increase of connective tissue, otherwise negative. Liver: Weight, 1,365 grams; small in size and pale, contains small whitish areas surrounding branches of portal vein; gall bladder filled with clear bile. Kidneys: Left, weight, 167 grams; shows considerable passive congestion and injection of stellate veins. Right, weight, 145 grams; similar to left save congestion is less. Intestines: Show ulceration from upper jejunum to and including cæcum. Two perforations. Stomach: Shows passive congestion. Pancreas, bladder, and prostate, negative. Lungs: Right, adherent from apex to base, several small cavities in upper and middle lobes, upper and middle lobes consolidated, some consolidation in lower lobe. Left, adherent throughout, cavity size of an orange in upper part, upper and lower lobes honeycombed with small cavities full of

cheesy material. Thoracic aorta, negative. Heart: Weight, 280 grams; both ventricles contain mixed clots, very slight thickening of one edge of mitral valves, rest of valves normal, heart muscle soft, right side walls are thin. Larynx, negative.

MICROSCOPICAL EXAMINATION.—Liver shows a few small tubercles and a slight amount of fatty infiltration. Spleen shows an increase of connective tissue and beginning amyloid degeneration. Kidneys show amyloid degeneration in some of the glomerule.

DIAGNOSIS.—Tuberculosis of lungs, liver, and intestines. Beginning fatty infiltration of liver. Amyloid degeneration of spleen and kidneys and acute general peritonitis.

H. G. E.  
P. M. C.

#### XLVI.

W. B.; white; age, 41 years; nativity, Norway; seaman; single; admitted October 28, 1903; died August 24, 1904.

Family history negative.

PERSONAL HISTORY.—Has had gonorrhœa, yellow fever, and rheumatism; has a left varicocele. Symptoms of tuberculosis began about four years before admission, with cough and expectoration. Bacilli are present in sputum. Has had evening rise of temperature, night sweats, no hemorrhages, some dyspnœa; latter severe and accompanied by considerable pain in chest, pleuritic in character. Physical examination revealed cavities at both apices and consolidation of about the upper four-fifths of both lungs. Heart negative. Nutrition poor. Urine negative.

NECROPSY.—Held August 24, 1904, at 1.30 p. m. Greatly emaciated. Pupils dilated. Beginning rigor mortis. Hypostatic congestion over back and buttocks. Abdomen scaphoid. Body heat absent. Abdominal cavity: Subcutaneous fat, small in amount; musculature small; peritoneum smooth, moist, and glistening; liver lacks two finger breadths of coming to costal margin; omental fat fair in amount; mesenteric lymph glands slightly enlarged; abdominal aorta negative. Liver: Weight, 1,100 grams; shows passive congestion and increase of connective tissue. Kidneys: Left, weight, 150 grams; capsule slightly adherent, cortex narrow, passive congestion; right, weight, 120 grams; same as left. Spleen: Weight, 90 grams; passive congestion, increase of connective tissue, amyloid degeneration. Stomach, pancreas, adrenals, prostate, and bladder, negative. Intestines: Two or three small ulcers in upper ileum and lower jejunum. Lungs: Right, weight, 870 grams; upper lobe adherent posteriorly; upper lobe contains many small cavities, and is infiltrated with tubercles; left, adherent apex to base, contains very little normal tissue, contains cavities throughout, and is infiltrated with tubercles from apex to base. Heart: Weight, 180 grams; very small, pale, and flabby; valves thickened. Larynx: Epiglottis granular in appearance; both vocal cords show ulceration.

MICROSCOPICAL EXAMINATION.—Kidneys, negative. Liver, negative. Spleen shows thickening of fibrous capsule and increase of connective tissue and amyloid degeneration.

DIAGNOSIS.—Tuberculosis of lungs, larynx, and intestines; passive congestion of liver, and amyloid degeneration of spleen.

H. G. E.  
P. M. C.

#### XLVII.

F. M.; age, 24; white; admitted November 2, 1903; died October 27, 1904.

Personal history negative; family history negative; duration of tuberculosis unknown. Physical examination: Left lung dullness throughout; clicks and pleuritic friction sounds from apex to base, front and back; bronchophony is noticeable over almost entire area; just beneath clavicle there is pectoriloquy over a small area of excavation. Right lung shows an occasional click in supra scapular region. Heart normal. Urine negative. Sputum contained tubercle bacilli.

NECROPSY.—Died October 27, 1904, 8.10 p. m. Small build; fairly well nourished; pupils dilated, left slightly more than right; moderate post-mortem lividity; marked rigor mortis. Brain: Meninges, dura thickened and congested, blood clot in superior longitudinal sinus, dura adherent to skull cap. Vessels of pia much engorged; weight of brain, 1,610 grams; lateral ventricles distended with slightly turbid fluid; all vessels congested; whole base of brain covered with fine tubercles and much coagulated fibrin; brain substance con-

gested. Abdominal cavity negative. Liver: Weight, 1,175 grams; markedly adherent to diaphragm; gall bladder contains moderate amount of bile; liver shows moderate appearance of passive congestion. Spleen: Weight, 230 grams; slight increase of connective tissue. Intestines, pancreas, adrenals, bladder, and prostate are negative. Heart: Weight, 280 grams; valves normal; a few atheromatous areas in first part of aorta. Lungs: Right, weight, 570 grams; free from adhesions; fairly normal appearance; on section a few hard nodules appearing to be caseous tubercles, and minute tubercles scattered throughout entire lung. Left, weight, 365 grams; firmly adherent at apex; at apex is an irregular thin-walled cavity size of an orange containing pus, with trabeculae running through it; lower lobe shows increase of fibrous tissue, caseous tubercles, and broken-down nodules.

**MICROSCOPICAL EXAMINATION.**—Choroid plexus; vessels congested and walls show change; apparently amyloid. Cerebral vessels show marked congestion. Exudate from base of brain shows no tubercle bacilli, but consists of coagulated fibrin. Spleen shows amyloid degeneration. Kidneys congested and show some cloudy swelling of tubular epithelium. Liver shows small tubercles and amyloid degeneration.

**DIAGNOSIS.**—Tuberculosis of lungs, liver, and meninges; acute parenchymatous nephritis; amyloid degeneration of liver and spleen.

H. G. E.  
P. M. C.

### XLVIII.

M. A.; age, 23 years; colored; admitted November 7, 1903; died November 28, 1904.

Personal history, negative; family history, negative; duration of tuberculosis unknown. Physical examination showed: Right lung, anteriorly, bronchial breathing to first interspace, bronchovesicular to base; posteriorly, bronchial breathing to fourth rib, bronchovesicular to eighth rib. Left lung, anteriorly, bronchial breathing to fourth rib, moist râles to base, moist râles in axilla; posteriorly, bronchial breathing throughout. Whispered pectoriloquy at second rib posteriorly right side, and at second, third, fourth, and fifth ribs posteriorly left side. Heart, normal; urine, negative; sputum contains tubercle bacilli.

**NECROPSY.**—Died November 28, 1904, 11.50 p. m.; autopsy November 29, 1904, at 1.30 p. m. Color, black; rather large build, well nourished, much oedema over legs, lymph scrotum, abdomen somewhat distended, rigor mortis present, slight amount of body heat present, pupils equal, chest fairly well formed. Abdominal incision: Fair amount of subcutaneous fat, light in color and dropsical, abdomen filled with yellowish-green fluid, not entirely clear. Peritoneal surfaces appear normal, musculature fair, all tissues dropsical. Omentum and mesentery contain fair amount of fat, retro-peritoneal lymph glands enlarged. Spleen: Weight, 225 grams; adherent to diaphragm, large, firm, and very few follicles seen. Kidneys: Right, weight, 170 grams; congested. Left, weight, 190 grams; congested. Liver: Weight, 1,560 grams; capsule thickened, connective tissue increased, shows passive congestion. Gall bladder distended with bile, cystic duct patent. Intestines: Show marked congestion at spots, upper jejunum shows under the serous coat a small white body, size of end of little finger. Pancreas shows congestion, otherwise normal. Stomach shows congestion of mucous membrane. Pericardial sac contains 200 c. c. slightly turbid greenish-yellow fluid. Heart: Weight, 440 grams; ventricles enlarged, especially right, muscle pale, valves apparently normal, arch of aorta shows slight atheroma. Lungs: Right, weight, 1,230 grams; adherent throughout upper lobe, has a large number of cavities and is consolidated, lower and middle lobes are oedematous, and contain small tubercles. Left, weight, 880 grams; adherent at upper portion, honeycombed with small cavities, and oedematous. Larynx congested, otherwise negative.

**MICROSCOPAL EXAMINATION.**—Heart muscle, negative; pancreas, negative; spleen shows an increase of connective tissue; liver shows chronic passive congestion; central zone shows atrophy of parenchyma cells and the spaces filled with red blood cells; outer zone, normal. Kidneys show some cloudy swelling of tubular epithelium.

**DIAGNOSIS.**—Tuberculosis of lungs; enlarged spleen (interstitial splenitis); chronic passive congestion of liver.

H. G. E.  
P. M. C.

## XLIX.

M. B.; age, 42 years; color, white; admitted December 5, 1904; died April 22, 1905. Previous duration of tuberculosis, one year.

Family history, negative; personal history, typhoid fever and grippe.

PHYSICAL EXAMINATION (February 24, 1905).—Right lung, anteriorly, whispering pectoriloquy strong to third rib; scattered moist rales to base posteriorly, bronchial breathing and scattered whispered pectoriloquy to eighth rib. Left lung, anteriorly bronchovesicular breathing to third rib; inspiration jerky; posteriorly, bronchial breathing to fourth rib; whispered pectoriloquy faint at third rib. Heart, normal; sputum, tubercle bacilli present; urine, negative.

NECROPSY.—Died April 22, 1905, 6 a. m.; autopsy April 22, 1905, 1.30 p. m. Emaciation marked, hypostatic congestion over back of trunk and limbs; large circular scar on the inner aspect of left knee joint. Pupils somewhat unequally dilated. Rigor mortis throughout. Abdominal section: Musculature and subcutaneous fat small in amount; peritoneal surfaces normal; liver normal in size; bladder distended to size of orange; mesenteric lymph glands enlarged. There is still body heat present in the viscera. Right lung: Adherent throughout, honeycombed with cavities and infiltrated throughout with tubercles and consolidation. Left lung: Much the same as right, though fewer cavities. Heart: Weight, 220 grams; small quantity of clear fluid in pericardial sac. Heart is negative. Liver: Weight, 1,310 grams; dark in color, shows passive congestion, gall bladder filled with bile, cystic duct patent. Spleen: Weight, 100 grams; small and deeply notched, slight increase of connective tissue, otherwise negative. Right kidney: Weight, 95 grams; apparently an increase of connective tissue. Left kidney: Weight, 115 grams; apparently an increase of connective tissue, and a number of yellowish spots in cortex. Intestines: Ulceration of ileum and caecum. Stomach small in size, otherwise negative; pancreas, adrenals, bladder, prostate, and larynx negative.

H. G. E.

P. M. C.

## L.

J. T.; aged 42 years; color, white; admitted April 12, 1901; discharged August 3, 1904; readmitted December 29, 1904; died January 22, 1905. Too weak for examination. Urine: Negative. Sputum: Tubercle bacilli present.

NECROPSY.—Small build; much emaciated; scaphoid abdomen; bluish discoloration in iliac regions; three or four petechial hemorrhages under skin of hands; hypostatic congestion over back. Rigor mortis present; body heat absent. Pupils equal and medium in size. Abdominal section: Musculature and subcutaneous fat very small in amount; margin of liver comes to about three finger breadths below costal margin, right side. Peritoneum moist and glistening; mesenteric fat very scant; mesenteric lymph glands slightly enlarged; abdominal aorta negative. Right lung: Weight, 400 grams; slightly adherent at apex and to diaphragm. Apex contains a cavity the size of a lemon; remainder of lung, save lower one-quarter, infiltrated with tubercles. Left lung: Lung is one large cavity, surrounded by a thin wall of lung tissue. Heart: Weight, 180 grams; negative. Liver: Weight, 1,520 grams; amyloid reaction. Spleen: Weight, 250 grams; gives amyloid reaction. Left kidney: Weight, 105 grams; fibrous capsule slightly adherent; kidney is hard; substance is pale yellow in color. Right kidney: Weight, 80 grams; same as left. Intestines: Show congestion, otherwise negative. Stomach: Shows congestion. Pancreas, adrenals, bladder, and prostate: Negative. Larynx: Negative.

MICROSCOPICAL EXAMINATION.—Liver: Shows amyloid degeneration. Spleen: Shows amyloid degeneration. Kidneys: Show an increase of connective tissue with some cloudy swelling of tubular epithelium and many obliterated glomeruli.

DIAGNOSIS.—Tuberculosis of lungs, amyloid degeneration of liver and spleen, and interstitial nephritis.

H. G. E.

P. M. C.

## LI.

J. K.; aged 29 years; color, white; admitted May 18, 1903; died March 25, 1905. Previous duration of tuberculosis not given.

FAMILY HISTORY.—Negative.

PERSONAL HISTORY.—Exposure.

PHYSICAL EXAMINATION (January 21, 1905).—Right lung anteriorly bronchial breathing to fourth rib, whispered pectoriloquy to second interspace, pleural

friction throughout, most marked at apex; posteriorly pleural friction to ninth rib, bronchial breathing to fourth rib, whispered pectoriloquy to second rib; broncho-vesicular breathing to eighth rib. Left lung, anteriorly bronchial breathing to fourth rib, whispered pectoriloquy under clavicle; posteriorly bronchial breathing to tenth rib, whispered pectoriloquy at second rib, sounds muffled by pleural friction throughout. Heart: Negative. Sputum: Tubercle bacilli present. Urine: Sediment and albumen present.

**NECROPSY.**—Died March 25, 1905, 5.45 p. m.; autopsy March 27, 1905, 1.30 p. m. Rather large build; serpigenuous eruption over chest; hypostatic congestion on dorsal surfaces; two discolored spots over lower abdomen from aspiration; body heat absent; rigor mortis beginning to disappear. Abdominal section: Musculature fair; subcutaneous fat, fair amount; considerable clear amber fluid in peritoneal cavity; peritoneal surfaces apparently normal; liver lacks about two finger breadths of reaching costal margin; mesenteric and omental fat rather well preserved; abdominal aorta shows marked atheroma. Left lung: Weight, 940 grams; adherent at apex; caseous areas at apex; whole lung infiltrated with tubercles. Right lung: Weight, 1,000 grams; adherent throughout; contains several cavities size of walnuts in upper lobe; entire lung infiltrated with small tubercles. Heart: Weight, 235 grams; negative; beginning aorta shows atheroma. Liver: Weight, 2,000 grams; adherent to diaphragm throughout; shows an increase of connective tissue. Left kidney: Weight, 290 grams; has scar size of thumb nail on surface, under which is an abscess cavity the size of a lima bean, containing a small amount of pus; capsule is only slightly adherent; cortex is thick, pale yellow, and contains irregular white pin-point areas; medulla contains white areas, probably tubercles. Right kidney: Weight, 310 grams; similar to left, save for absence of scars and abscess cavity. Spleen: Weight, 540 grams; much enlarged; dark in color; friable; shows amyloid degeneration. Intestines, stomach, bladder, adrenals, and prostate are negative. Pancreas: Apparently oedematous.

**MICROSCOPICAL EXAMINATION.**—Liver: Shows miliary tubercles. Kidneys: Show amyloid degeneration of glomeruli; tubular epithelium degenerated; hyaline casts in tubules, and areas of necrosis (tuberculous). Spleen: Amyloid. Pancreas: Negative.

**DIAGNOSIS.**—Tuberculosis of lungs, liver, and kidneys, amyloid degeneration of kidneys and spleen, parenchymatous nephritis, and beginning atheroma of aorta.

H. G. EL.  
P. M. C.

## LII.

A. C.; aged 28 years; color, white; admitted September 9, 1904; died January 15, 1905.

**FAMILY HISTORY.**—Negative.

**PERSONAL HISTORY.**—Malaria, pleurisy. Previous duration of tuberculosis nine months.

**PHYSICAL EXAMINATION.**—Pectoriloquy and bronchophony, below left apex. Bronchial breathing over upper half of right lung. Left lung, bronchial breathing throughout upper half. Numerous moist râles at base. Heart: Negative. Urine: Negative. Sputum: Tubercle bacilli present.

**NECROPSY.**—Died January 15, 1905, 11.30 p. m.; autopsy January 16, 1905, 1.30 p. m. Greatly emaciated, rigor mortis present throughout, hypostatic congestion over back of trunk, pupils slightly dilated and equal in size. Abdominal section: Musculature scant, subcutaneous fat small in amount, liver comes to costal margin right side, peritoneal surfaces apparently normal, mesenteric glands slightly enlarged. Abdominal aorta contains a few small sclerotic patches. Right lung: Adherent at apex, consolidated throughout upper two-thirds, cavity in apex. Left lung: Adherent throughout, cavity size of a lemon on line with second rib, consolidated and infiltrated in upper portion. Heart: Pericardial sac contains 200 c. c. of clear fluid. Heart contains white clot, valves are normal. Spleen: Weight, 250 grams; gives amyloid reaction; fibrous tissue greatly increased. Liver: Weight, 2,400 grams; gives amyloid reaction; considerable passive congestion. Right kidney: Weight, 170 grams; shows great passive congestion. Left kidney: Weight, 200 grams; similar to right. Intestines: Show numerous ulcers throughout the ileum and cecum. Stomach, pancreas, adrenals, bladder, and prostate: Negative. Larynx: Eroded throughout as far down as the cricoid cartilage.

MICROSCOPICAL EXAMINATION.—Liver: Shows amyloid degeneration. Spleen: Shows amyloid degeneration. Kidneys: Negative. Pancreas: Negative.

DIAGNOSIS.—Tuberculosis of lungs, larynx, and intestines, amyloid degeneration of liver and spleen, and beginning atheroma of aorta.

H. G. E.  
P. M. C.

#### LIII.

L. H.; aged 40 years; color, white; admitted June 11, 1904; died May 15, 1905. Previous duration of tuberculosis, seven months.

FAMILY HISTORY.—Father died of tuberculosis.

PHYSICAL EXAMINATION (March 7, 1905).—Right lung: Anteriorly bronchial or broncho-vesicular breathing throughout, also friction sounds. Whispered pectoriloquy above and below clavicle; posteriorly bronchial breathing to eighth rib with friction. Muffled whispered pectoriloquy at apex. Left lung: Anteriorly bronchial breathing to fourth rib, whispered pectoriloquy below clavicle; posteriorly bronchial breathing to eighth rib; broncho-vesicular to base. Heart: Negative. Sputum: Tubercle bacilli present. Urine: Negative.

NECROPSY.—Died May 15, 1905, 6.15 a. m.; autopsy May 16, 1905, 10 a. m. Medium build; hypostatic congestion over back; pupils unequal, left slightly larger than right; rigor mortis present throughout; body heat absent. Abdominal section: Musculature and subcutaneous fat fair in amount; peritoneal fat fair in amount. Some coils of intestine adherent to each other. Right lung: Adherent throughout; contains a large cavity in apex; upper half consolidated. Left lung: Adherent throughout; contains two small cavities in apex; consolidation upper one-half. Heart: Weight, 260 grams; slight adhesions of pericardium; slight amount of clear yellow fluid in pericardial sac. Semilunar valves showed slight thickening and one of flaps of tricuspid valve was perforated by a round hole size of French pea. Liver: Weight, 1,230 grams; contains marked increase of connective tissue; cuts like tough steak; gall bladder small in size, filled with bile; cystic duct patent. Spleen: Weight, 180 grams; very flabby; shows increase of connective tissue. Left kidney: Weight, 200 grams; capsule slightly adherent; shows passive congestion. Right kidney: Weight, 185 grams; passive congestion. Intestines: In places coils of small intestine are adherent. A few small ulcers in jejunum and upper ileum. Stomach, pancreas, adrenals, and prostate: Negative. Bladder: Distended and slightly congested. Brain: Weight, 1,350 grams; meninges are congested and there is a slight fibrinous exudate at base of brain. The ventricles are dilated and filled with a slightly turbid fluid.

MICROSCOPICAL EXAMINATION.—Liver: Increase of connective tissue, degeneration of parenchyma. Spleen: Shows very slight increase of connective tissue. Kidneys: Negative.

DIAGNOSIS.—Tuberculosis of lungs and intestines interstitial nepatitis, and acute cerebral and meningeal congestion.

H. G. E.  
P. M. C.

#### LIV.

D. F.; colored; age, 23; nativity, Alabama; fireman; single; admitted July 16, 1904; died September 2, 1904.

Family history of tuberculosis in both parents.

PERSONAL HISTORY.—Has had fracture of right thigh and right clavicle, huskiness of voice, malaria, and measles. Thinks he had tuberculosis about six months before admission. Had cough, sputum, fever, night sweats, and dyspnea, no hemorrhages. Some pains in chest, probably not pleuritic in character. Hæmoglobin, 80 per cent.

NECROPSY (September 3, 1904, 1.30 p. m.).—External appearances: Colored, slender build, considerable emaciation, rigor mortis present throughout, pupils dilated and equal, musculature small, subcutaneous fat small in amount. Abdominal cavity: Peritoneum smooth, moist, and glistening; liver extends to costal margin; urinary bladder distended to size of small cocoanut; omental fat small in amount; mesentric glands enlarged; intestines dark in color. Liver shows increase of connective tissue and passive congestion. Spleen: Weight, 90 grams; passive congestion; increase in connective tissue; slight amyloid change. Kidneys: Right, weight, 130 grams; subcapsular cyst size of almond, shows great congestion. Left, weight, 146 grams; shows increased connective tissue and great congestion; medulla is thickened. Abdominal and thoracic

aorta, negative. Bladder, prostate, pancreas, and adrenals, negative. Intestines: Lower jejunum shows a few round ulcers, few in upper ileum, many in lower ileum; ileo-cæcal valve one mass of ulceration; ulceration in ascending and transverse colon. Chest cavity: Anterior mediastinum negative. Right lung adherent above and posteriorly; left adherent throughout. Right lung: Weight, 650 grams; infiltrated with tubercles from apex to base; several small cavities and areas of consolidation in upper lobe; lung is oedematous. Left lung honeycombed with cavities throughout; remainder of lung is consolidated and infiltrated; lung is oedematous. Heart: Weight, 200 grams; small, pale, and flabby; both auricles filled with clots; tightly adherent to the valves; all valves are greatly thickened. Larynx: Epiglottis is much thickened; ulceration over arytenoid cartilages; vocal cords obliterated; whole inner surface of larynx ulcerated; ulcers extend into trachea below.

**MICROSCOPICAL EXAMINATION.**—Liver: Connective tissue markedly increased and liver cells atrophied. Kidneys: Negative. Spleen: Some increase in connective tissue; no amyloid change apparent.

**DIAGNOSIS.**—Tuberculosis of lungs, larynx, and intestines; degeneration of myocardium and thickening of cardiac valves; passive congestion of liver, spleen, and kidneys.

H. G. E.

P. M. C.

#### LV.

A. R.; age, 22; white; admitted May 8, 1904; died November 11, 1904.

Family history negative. Duration of tuberculosis, about nine months.

**PHYSICAL EXAMINATION.**—Tubular breathing over both upper lobes; bronchovesicular over remainder of lungs; large moist râles throughout; friction sounds over right upper lobe and over heart; cavernous breathing from left apex to nipple. Heart normal. Urine contains albumen; sediment heavy. Sputum contains tubercle bacilli.

**NECROPSY.**—November 12, 1904, 1.30 p. m. External appearances: Slender build; much emaciated; rigor mortis present throughout; body heat absent; pupils dilated and equal; hypostatic congestion over back of trunk and legs. Abdominal section: Subcutaneous fat very small in amount; musculature small; abdomen contains a large amount of clear yellow serum, with flakes of yellowish fibrin; border of liver comes to costal margin; mesenteric and retroperitoneal lymph glands much enlarged; abdominal aorta negative. Spleen: Weight, 162 grams; congested, dark in color, connective tissue increased; gives amyloid reaction with Lugol's solution. Kidneys: Left, weight, 187 grams; fatty capsule small in amount and fat undergoing degeneration; fibrous capsule strips easily; stellate veins somewhat injected; vessels are congested; glomeruli seem as reddish pin points. Right, weight, 166 grams; similar to left. Liver: Weight, 2,350 grams; enlarged; anterior border much notched; friable on section, and filled with amyloid; gives reaction with Lugol's solution; gall bladder enlarged and distended with bile. Heart: Weight, 226 grams; pericardial sac contains about 200 c. c. of clear fluid; heart rather small; walls thin; contains white clot; two small sclerotic patches in ascending aorta, valves normal. Intestines: Small intestines contain numerous ulcerated patches throughout; show four perforations, two of which are the size of a 25-cent piece, the others not more than one-half millimeter in diameter. Stomach shows passive congestion. Adrenals somewhat dark in color, otherwise negative. Pancreas, bladder, and prostate negative. Lungs: Left, adherent throughout; the upper lobe contains a cavity which easily admits the closed fist. Right, adherent at apex; contains two cavities; larger, size of lemon; posteriorly the lung is infiltrated with tubercles and contains small calcareous masses. Larynx and vocal cords are considerably eroded.

**MICROSCOPICAL EXAMINATION.**—Kidneys show parenchymatous nephritis and amyloid degeneration. Liver shows amyloid degeneration. Spleen shows amyloid degeneration.

**DIAGNOSIS.**—Tuberculosis of lungs, larynx, and intestines; amyloid degeneration of kidneys, liver, and spleen; parenchymatous nephritis.

H. G. E.

P. M. C.

## LVI.

C. E.; age, 23 years; color, white; admitted July 19, 1904; died December 7, 1904.

Personal history negative; family history negative. Physical examination: Right lung, anteriorly, bronchial breathing to fifth rib, whispering pectoriloquy at second interspace, moist râles to base; posteriorly, bronchial breathing to seventh rib. Left lung, anteriorly, bronchial breathing to third rib, broncho-vesicular to base; right, whispering pectoriloquy to first interspace, bronchial breathing to fifth rib and broncho-vesicular to seventh rib, doubtful pectoriloquy at first rib. Heart, normal. Urine, negative. Sputum, tubercle bacilli present. Died December 7, 1904, at 12.30 p. m.

NECROPSY.—Held December 8, 1904, at 1.30 p. m. Emaciated; body heat absent; rigor mortis present; pupils contracted; left ankle swollen, and œdematous, hypostatic congestion over dependent parts. Abdominal section: Subcutaneous fat small in amount; musculature small; peritoneal surfaces normal; fat scanty; mesenteric and retro-peritoneal lymph glands enlarged; abdominal aorta negative. Liver: Weight, 1,365 grams; adherent to diaphragm and stomach; shows slight chronic passive congestion; gall bladder filled with bile; cystic duct patent. Spleen: Weight, 115 grams; shows slight increase of connective tissue. Kidneys: Right, weight, 97 grams; negative. Left, weight, 125 grams; negative. Stomach much enlarged and filled with fluid. Pancreas, bladder, and prostate negative. Intestines ulcerated throughout; small intestines contain two perforations; wall of large intestine very friable. Heart: Weight, 205 grams; pericardium contains about 100 cc. clear greenish fluid; right side contains white clot; valves apparently normal. Lungs: Left, weight, 770 grams; slightly adherent, honeycombed with cavities; tubercles throughout; only the lower third contains air. Right, weight, 940 grams; firmly adherent; upper third is one large cavity; middle third contains small cavities; lower third infiltrated with tubercles. Larynx negative.

MICROSCOPICAL EXAMINATION.—Spleen shows amyloid degeneration. Kidneys show cloudy swelling of tubular epithelium. Liver shows miliary tubercles and amyloid degeneration.

DIAGNOSIS.—Tuberculosis of lungs, intestines, and liver; amyloid degeneration of liver and spleen.

H. G. E.

P. M. C.

## LVII.

K. O.; aged 43 years; white; admitted October 1, 1903; died November 22, 1904.

Personal history negative. Family history negative. Duration of tuberculosis unknown. Physical examination: Right lung, areas of pectoriloquy throughout whole lung, especially marked at apex; amphoric and cavernous breathing over same areas; bronchial breathing and moist râles throughout. Left lung, area of pectoriloquy and amphoric respiration at apex; bronchial breathing and moist râles throughout upper two-thirds. Heart normal. Urine negative. Sputum shows tubercle bacilli. Died November 22, 1904, 5 a. m.

NECROPSY.—Held November 22, 1904, at 1.45 p. m. External appearances: Emaciated, body heat absent, very slight hypostatic congestion in dependent parts. Little subcutaneous fat, musculature scanty.

Lungs: Right, weight, 780 grams; adherent, contains a cavity the size of an orange traversed by several trabeculae and filled with clotted blood; middle lobe contains several infarcts; whole lung is infiltrated with numerous tubercles. Left, weight, 530 grams; adherent, infiltrated with tubercles throughout. Heart: Weight, 280 grams; negative. Liver: Weight, 1,561 grams; gall bladder contains a small amount of bile; liver apparently negative. Intestines filled with clotted blood, a number of ulcers in small intestine. Kidneys: Left, weight, 205 grams; pale in color; otherwise negative. Right, weight, 185 grams; similar to left. Spleen: Weight, 220 grams; apparently normal. Stomach filled with clotted blood; mucous membrane pale in color. Pancreas, bladder, adrenals, prostate, and appendix apparently normal. Larynx: Left false vocal cord contains an ulcer the size of a split pea.

MICROSCOPICAL EXAMINATION.—Kidneys, negative. Spleen shows amyloid degeneration. Liver: Shows many small tubercles.

MICROSCOPICAL EXAMINATION.—Kidneys, negative. Spleen shows amyloid degeneration. Liver shows many small tubercles.

H. G. E.

P. M. C.



## LVIII.

H. B. H.; age, 52; white; admitted October 10, 1904; died November 27, 1904.

Personal history: Pneumonia and syphilis. Family history: Negative; duration of tuberculosis about six months. Physical examination showed very slight dullness down to third rib anteriorly, and to fourth rib posteriorly, over left side. Breath sounds not reliable on account of noisy respiration in throat; Larynx shows marked affection; heart normal; urine negative; sputum contained tubercle bacilli. Died November 27, 1904, 6.45 p. m.

NECROPSY.—November 28, 1904, 1.30 p. m. External appearance: Rather large build; well nourished; rigor mortis present throughout; body heat absent; hypostatic congestion present on back and limbs; on right shin is a hard nodule not attached to bone, on section resembles hard fibrous tissue and is apparently in deeper layer of skin. Abdominal section: Subcutaneous fat good; musculature, fair; peritoneum, normal; mesenteric fat, fair in amount; abdominal aorta shows a considerable amount of sclerosis. Spleen: Weight, 130 grams; very friable and very dark in color. Kidneys: Left, rather large; dark in color; fibrous capsule strips easily; a urinary cyst size of hazel nut and a small hemorrhage beneath capsule, on section kidney much congested; weight, 200 grams. Right has a urinary cyst size of a walnut; shows no hemorrhages; otherwise similar to left; weight, 170 grams. Liver: Weight, 1,720 grams; negative. Intestines, stomach, pancreas, adrenals, bladder, prostate, negative. Lungs: Right, weight, 530 grams; adherent at two small points, one at extreme apex, other at middle lobe; external surface looks normal; lung filled with air. A small calcareous nodule size of shot at apex. Left, weight, 370 grams; same condition as right, both lungs otherwise apparently normal. Bronchi are full of thick sputum. Heart: Weight, 360 grams; aorta shows beginning atheroma; aortic semilunar valves beginning to be involved. Mitral valve shows some thickening. Larynx: Oedema of epiglottis; on left side of larynx is a large, soft, white growth, size of an English walnut, involving the surrounding tissues; is soft and pulpy in consistence, encroaching upon lumen of larynx till almost complete obstruction exists, left vocal cord is entirely involved in process.

MICROSCOPICAL EXAMINATION.—Smear taken from interior of larynx showed no tubercle bacilli, but many other bacteria, principally diplococci. Smear taken from exterior of larynx practically sterile. Kidney, some increase of connective tissue about cyst walls and hemorrhagic spots present. Spleen shows slight increase of connective tissue and a few spots, hemorrhagic in character. Liver, negative. Tumor of larynx, epithelioma. Tumor of leg, fibroma.

DIAGNOSIS.—Tuberculosis of lungs, cystic kidneys, epithelioma of larynx, sclerosis of aorta and aortic valves, and fibroma over anterior border of tibia.

H. G. E.  
P. M. C.

## LIX.

D. F. J.; aged 37 years; nativity, Denmark; color, white; admitted to United States Marine Hospital, port of San Francisco, Cal., May 12, 1904; died December 3, 1904, at 5.30 a. m.

HISTORY.—Had been at service sanatorium at Fort Stanton, N. Mex., for last four years, and left there because he thought there was increasing difficulty in respiration. Dullness anteriorly over both lung apices. Moist râles at base of left lung anteriorly and posteriorly. No râles over right lung. Had no sweats, but felt weak and dyspneic on slight exertion. Outdoor treatment. Patient held his weight and appetite during residence here, and except occasional diarrhea apparently lost no ground until November 13, 1904, when he had a small hemorrhage. Following this he had several more which perceptibly weakened him. Became bedridden and unable to rally.

NECROPSY (8½ hours after death).—Body that of a white male about 38 years of age. Length of body about 6 feet. Rigor mortis well developed. Post-mortem suffusion in most dependent portions. Oedema about legs. Brain weighs 1,430 grams; presents no abnormalities. Right lung adherent over almost entire surface; upper lobe passively congested; lower lobe actively congested; on the whole, the lung is in fairly good condition, and was doing most of the work of oxygenation. Left lung bound down by adhesions stronger than the remaining lung tissue, making removal impossible; it is riddled with cavities. Heart weighs 465 grams; left ventricular wall 1.5 cm, thick; right ven-

tricular wall 0.75 cm. thick; heart valves normal. Liver weighs 1,750 grams; normal. Gall bladder contains viscid bile, but no calculi. Spleen weighs 135 grams; negative. Right kidney weighs 165 grams; capsule strips readily; organ is passively congested. Left kidney weighs 220 grams; similar to its fellow of opposite side. Appendix negative. Intestines normal.

J. M. H.  
W. G. S.

## LX.

J. J.; age, 22 years; nativity, West Indies; admitted to United States sanatorium, Fort Stanton, N. Mex., July 2, 1904; died August 17, 1904.

NECROPSY.—August 18, 1904, 1 p. m. Colored, slender build; considerably emaciated; pupils equal; teeth fair; rigor mortis present; body heat absent; hypostatic congestion over back of trunk; subcutaneous fat fair in amount; musculature small. Abdominal cavity: Peritoneum moist and shiny; edge of liver a finger's breadth above costal margin; omental fat fair in amount; intestines considerably distended with gas; mesenteric and retroperitoneal lymph glands enlarged; abdominal aorta negative. Liver: Weight, 1,795 grams; shows passive congestion and increase of connective tissue. Spleen: Weight, 97 grams; passive congestion and increase of connective tissue. Intestines: Lower foot of ileum is ulcerated; externally the gut is black and shows many tubercles beneath peritoneal coat. Appendix in same condition and contains an enterolith. Ulceration extends throughout ascending colon. Right kidney: Weight, 167 grams; shows nothing but congestion. Left kidney: Weight, 177 grams; same as right. Stomach: Dilated, but otherwise negative. Pancreas, adrenals, bladder, and prostate negative. Heart: Weight, 300 grams; large, pale, and flabby; both auricles and ventricles filled with jelly-like clots closely adherent to valves; thickening of both auriculo-ventricular valves. Right lung: Weight, 1,070 grams; areas of consolidation and pea-sized tubercles throughout entire lung; some oedema and congestion. Left lung: Is tightly adherent from apex to base; cavity in apex size of orange; whole lung honeycombed with cavities. Larynx: Epiglottis completely destroyed; both vocal chords ulcerated; interior of larynx infiltrated with tubercles.

MICROSCOPICAL EXAMINATION.—Liver shows miliary tubercles. Kidney: Cloudy swelling of tubular epithelium. Spleen: Increase of connective tissue; small miliary tubercles.

DIAGNOSIS.—Tuberculosis of lungs, larynx, intestines, liver, and spleen.

H. G. E.

## LXI.

W. C.; age, 37 years; nativity, England; color, white; admitted to the United States sanatorium, Fort Stanton, N. Mex., November 14, 1900; died August 14, 1904.

FAMILY HISTORY.—Mother and one brother died of heart disease. Father died of pneumonia.

PERSONAL HISTORY.—Had syphilis twelve years ago; gonorrhea eight years ago, and pleurisy with effusion on right side four years ago. For the past two years has had cough with considerable expectoration.

PHYSICAL EXAMINATION.—Inspection: Panniculus is somewhat scant; musculature small; clavicles prominent. Thyroid gland enlarged. Palpitation: Vocal fremitus is somewhat exaggerated over both lungs. Percussion: Right lung shows relative dullness of considerable degree over entire area. Auscultation: Crackles heard throughout entire front of both lungs. Right lung behind shows a few râles in upper half. There is some excavation in infra-clavicular region of right lung. Sibillant râles heard on expiration over both lungs.

NECROPSY (August 15, 1904, 1.30 p. m.).—Rigor mortis present throughout; pupils equal, somewhat dilated; cadaveric lividity marked over back and posterior surfaces of extremities; emaciation very slight; veins of legs somewhat tortuous and varicose; hair scant; subcutaneous fat fairly well preserved; musculature fair. Abdominal cavity: Peritoneum clear and glistening; omental fat fairly well preserved; intestines distended with gas; very small amount of fluid in abdominal cavity; appendix 4 inches long; mesenteric vessels show passive congestion. Chest cavity: Anterior mediastinum negative; right lung adherent throughout. Lungs: Left, weight, 710 grams; upper lobe filled throughout with tubercles and areas of consolidation; same condition in upper

third lower lobe, also contains a small cavity; whole lung oedematous. Right, not removed; cavity in apex infiltrated and consolidated throughout. Heart: Weight, 280 grams; pale and flabby; large amount of fat; valves thickened and sclerotic; beginning of aorta shows atheroma; both auricles and ventricles filled with mixed tenacious clots. Liver: Weight, 1,480 grams; liver substance friable; shows passive congestion; increase of connective tissue; lobules very indistinct. Spleen: Weight, 190 grams; fibrous tissue very slightly increased; corpuscles fairly distinct as whitish spots. Kidneys: Right, weight, 250 grams; fatty capsule large in amount; fibrous capsule strips with some difficulty; stellate veins injected; kidney much paler than normal, shows whitish specks scattered throughout; pyramids dark red in color. Left, weight, 280 grams; similar to right, save larger, and pyramids somewhat more congested. Stomach: Considerably dilated, filled with a greenish fluid; vessels show some passive congestion, otherwise negative. Adrenals: Right is congested and hemorrhagic; pancreas, bladder, and prostate negative. Intestines: Splenic flexure of colon congested and contains a small ulcer, elsewhere negative. Larynx: Mucous membrane somewhat granular in appearance, otherwise negative. Thyroid gland: Weight, 170 grams; is very much enlarged and nodular.

**MICROSCOPICAL EXAMINATION.**—Liver: Shows increase of connective tissue and atrophy of parenchyma cells. Spleen: Shows amyloid degeneration and increase of connective tissue. Kidneys: Show amyloid degeneration of the glomeruli, an increase of connective tissue, cloudy swelling of tubular epithelium, and granular and hyaline casts in tubules. Pancreas: Shows beginning amyloid change.

**DIAGNOSIS.**—Tuberculosis of lungs and intestines; amyloid degeneration of spleen, kidneys, and pancreas; beginning cirrhosis of liver.

H. G. E.

## LXII.

B. D.; aged 29 years; nativity, New York; color, white; admitted to the United States Sanatorium, Fort Stanton, N. Mex., June 11, 1904; died August 9, 1904.

**NECROPSY** (August 10, 1904, 1 p. m.).—Medium build; poorly nourished; pupils equal; scaphoid abdomen and beginning decomposition; body heat absent; rigor mortis present; subcutaneous fat scant and musculature poor. Abdominal cavity: Peritoneum shiny and moist; liver comes to costal margin, right side; omentum fairly rich in fat and dark from decomposition. Bladder distended with urine; mesenteric lymph glands enlarged; intestines dark from beginning decomposition. Some sclerosis of abdominal aorta. Thoracic cavity: Small amount of straw-colored fluid in pericardial sac; beginning sclerosis of thoracic aorta. Right lung adherent from apex to base, left to fourth rib. Lungs: Both lungs contain cavities at apices and scattered areas of consolidation. Heart: Weight, 180 grams; is small; auricles and ventricles empty; some thickening of mitral valve; other valves normal; beginning sclerosis in arch of aorta. Liver: Shows passive congestion and increase of connective tissue; weight, 1,480 grams. Spleen: Weight, 180 grams; slightly notched firm consistency; follicles stand out like sago grains. Left kidney: Weight, 140 grams; fatty capsule fair in amount; fibrous capsule adherent; beneath capsule are yellowish-white pin head points. Stellate veins injected. Throughout cortex and in some of the pyramids are whitish points size of pin head to No. 4 shot. Right kidney: Weight, 160 grams; similar in all respects to left. Adrenals and pancreas: Negative. Intestines: From lower jejunum to caecum are a number of ulcers ranging in size from pin head to half dollar, most numerous in caecum. Bladder: Distended to size large orange; otherwise negative. Stomach: Mucous membrane congested; otherwise normal. Prostate: Texture somewhat soft; otherwise negative. Larynx: About three-fourths of epiglottis eroded away, remainder covered by large ulcer; true cords are almost destroyed by ulceration and ulcers are scattered throughout remainder of larynx and trachea.

**DIAGNOSIS.**—Tuberculosis of lungs, larynx, intestines, and kidneys; amyloid degeneration of spleen; beginning sclerosis of aorta.

H. G. E.  
P. M. C.

## LXIII.

G. N.; age, 39 years; nativity, Greece; color, white; admitted to the United States Sanatorium, Fort Stanton, N. Mex., September 16, 1903; died August 7, 1904.

**PHYSICAL EXAMINATION.**—Posture, stooped; spinal curvature, lateral; chest leans to left side; mobility scant, apparently same for both sides. Palpation: Mobility scant, apparently same for both sides. Vocal fremitus negative. Percussion: Some dullness at apices, otherwise negative. Auscultation: Bronchial breathing left apex to about fourth rib, anteriorly few moist rales, and pleuritic friction sounds over same area. Hardened breathing at right apex to about second rib. Posteriorly bronchial breathing from apices to about seventh spine on left, about spine of scapula on right. Vocal transmission increased over upper chest, chiefly behind. Heart apparently normal.

**NECROPSY.**—Died 1.45 a. m., August 7, 1904; necropsy held August 8, 1904, at 1.30 p. m. Medium build; some emaciation about chest and extremities; hypostatic congestion over back; rigor mortis present; body heat absent; right pupil a little larger than left; teeth good; subcutaneous fat is scant in amount and musculature small. Abdominal section: Peritoneum smooth and glistening; liver comes to costal margin on right; omental fat small in amount; mesenteric glands are slightly enlarged. Spleen: Weight, 140 grams; deeply notched; fairly firm to feel; follicles easily seen; some increase in connective tissue. Gall bladder: Small; partially filled with bile. Liver: Weight, 1,800 grams; Glisson's capsule slightly thickened. On section central zone of follicles congested, outer zone pale. Right kidney: Weight, 131 grams; fatty capsule well supplied with fat; fibrous capsule strips easily; stellate veins injected; cortex slightly congested. Left kidney: Weight, 141 grams; is similar to right in all respects. Abdominal aorta, bladder, prostate, adrenals, pancreas, negative. Stomach contains yellowish fluid; mucous membrane slightly congested. Costal cartilages are very soft. Anterior mediastinum is negative. Pericardium is negative. Right lung: Adherent from apex to third rib posteriorly; weighs 1,430 grams; cavity size of walnut in apex; middle and lower lobes infiltrated with tubercles. Left lung: Adherent from apex to second rib posteriorly; weighs 1,250 grams; contains many small cavities in upper lobe; lower lobe infiltrated with tubercles. Peri-bronchial lymph glands slightly enlarged. Thoracic aorta, testicles and intestines negative. Heart: Both ventricles filled with dark red clots; valves normal; ventricles, especially right, dilated; some sclerosis of beginning of aorta. Epiglottis contains an ulcer of large size on posterior surface.

**MICROSCOPICAL EXAMINATION.**—Spleen: Shows amyloid degeneration of follicles. Kidneys: Show beginning amyloid degeneration of some of the glomeruli and cloudy swelling of epithelium of tubules. Liver: Shows amyloid degeneration, an increase in connective tissue, and miliary tubercles.

**DIAGNOSIS.**—Tuberculosis of lungs, larynx, and liver; amyloid degeneration in liver, spleen, and kidneys; acute parenchymatous nephritis.

H. G. E.  
P. M. C.

## LXIV,

W. F.; age, 24; white; admitted September 5, 1903; died October 28, 1904.

**PHYSICAL EXAMINATION.**—Cavity upper half of left lung; bronchial breathing over both lungs; moist and sibilant rales over both sides; whispered pectoriloquy over cavities. Sputum contained tubercle bacilli.

**NECROPSY.**—Died October 28, 1904, 7.10 p. m. External appearances: Medium build; quite emaciated; body heat absent; rigor mortis present throughout; hypostatic congestion over back of trunk and limbs; pupils dilated and equal. Abdominal section: Subcutaneous fat and musculature small in amount; peritoneum normal in appearance; mesenteric lymph glands slightly enlarged; mesenteric fat abundant; an accessory spleen about the size of a bean found; abdominal aorta negative. Chest cavity: Right pleura slightly adherent throughout; left pleura adherent at apex and along mediastinum. Kidneys: Right, weight, 170 grams; fatty capsule fair in amount; fibrous capsule non-adherent; stellate veins injected; surface shows two large irregular areas light yellow in color, section shows the same appearance, glomeruli can be seen anywhere, save in area described. Left, weight, 150 grams; same as right, save areas above described are much smaller. Liver: Weight, 1,480 grams; shows passive congestion. Intestines: Ileum and cæcum show ulceration; remainder of intestines congested. Bladder: Distended with urine; mucous membrane

markedly congested. Stomach, pancreas, adrenals, and prostate, negative. Heart: Weight, 335 grams; right side filled with white clot; heart negative. Lungs: Right, weight, 480 grams; apex honeycombed with cavities; tubercles throughout. Left, weight, 470 grams; similar to right. Larynx: Epiglottis shows an irregular ulcer about half the size of a dime. Spleen: Weight, 240 grams; increase of connective tissue and a small number of Malpighian bodies.

**MICROSCOPICAL EXAMINATION.**—Liver shows passive congestion and a few small miliary tubercles. Spleen shows increase of connective tissue and beginning amyloid degeneration. Kidneys, large areas of caseation and tuberculous necrosis.

**DIAGNOSIS.**—Tuberculosis of lungs, larynx, intestines, liver, and kidneys; amyloid degeneration of spleen.

H. G. E.

P. N. C.

#### LXV.

G. M. I.; age, 39 years; nativity, Maine; color, white; admitted September 25, 1902; died July 19, 1904.

**PERSONAL HISTORY.**—Has had diseases incident to childhood. Present illness began 1896. Pain in upper part of left chest just noticed. Some dyspnea noted.

**PHYSICAL EXAMINATION.**—Chest flat, markedly emaciated, infra-clavicular regions depressed. Mobility very slight. Vocal fremitus increased over whole chest, right more than left. Chest is fairly resonant save at apices; resonance probably on account of excavation. Breathing is amphoric at apices and more or less so to nipples. Voice transmission increased over whole chest. Whispered voice over upper chest. Heart: Second sounds at base are markedly accentuated; beat rapid. Sputum contains many tubercle bacilli.

**NECROPSY.**—July 20, 1904, 2 p. m. General appearances: Pupils dilated; hypostatic congestion in both conjunctivæ and in lower part of eyeball. Emaciation quite marked; cadaveric lividity over entire body, face excepted; hair scant; finger nails curved and cyanotic. Abdominal section: Small quantity of gas escapes from abdominal cavity. Thoracic cavity: Anterior mediastinum negative; 75 c. c. of dark fluid in pericardial sac. Heart: Aorta negative, left ventricle much paler than normal, yellowish in color, muscular wall of left heart quite friable. Mitral valve contains a few sclerotic patches along its edges; tricuspid valve greatly thickened and sclerotic; right heart contains a thick white clot. Heart is extremely enlarged and filled with clotted blood. Lungs: Right, almost completely adherent; so much so that it is impossible to remove it. Posterior surface of lower lobe is somewhat anthracotic, but otherwise normal. Left, also completely adherent to chest wall; section of lung removed is hard and sclerotic; shows cavities lined with fibrous tissue. Abdominal cavity: Small quantity of fluid present; greater omentum is engorged; Mesenteric lymph glands slightly enlarged. Stomach, slightly congested, otherwise normal. Oesophagus, apparently normal. Pancreas, pale in color; fibrous tissue surrounding it is increased. Right kidney: Weight, 200 grams; perirenal fat is well preserved; fibrous capsule is quite thin and slightly adherent; renal substance soft and friable; stellate veins injected, otherwise normal. Left kidney: Weight, 210 grams; shows a band of fibrous tissue traversing its surface and sending bundles into its interior. Spleen: Weight, 290 grams; shows several deep notches on anterior border; one on posterior border. Internal surface shows several nodular outgrowths of splenic substance. Fibrous tissue increased, substance dark in color, follicles not easily made out. Intestines: Small intestine somewhat congested, especially near lower ileum, otherwise normal. Cæcum and colon considerably congested; transverse colon greatly contracted, hardly larger than small intestine in caliber, otherwise negative. Liver: Weight, 1,380 grams; margin one finger breadth below costal margin. Gall bladder normal in size and filled with bile. Liver is dark in color and engorged. Capsule thickened. On section, large amount, about 300 c. c., of dark tarry blood exuded from hepatic vessels; substance presents nutmeg appearance. Larynx: Slightly congested; surface of trachea somewhat granular in appearance and shows a few scars.

**MICROSCOPICAL EXAMINATION.**—Spleen shows connective tissue greatly increased, vessels engorged, and amyloid degeneration. Liver: Connective tissue increased, passive congestion, marked fatty change and amyloid degeneration. Heart: Endocardium greatly thickened, connective tissue greatly increased, in many portions more or less completely replacing muscle. Small amount of pus

in heart wall. Kidneys: Vessels greatly engorged, connective tissue greatly increased. A number of cortical hemorrhages. Some cloudy swelling of renal epithelium. Pancreas: Connective tissue greatly increased, otherwise negative.

**PATHOLOGICAL DIAGNOSIS.**—Chronic ulcerative phthisis; tuberculosis of pleura; mitral endocarditis and chronic myocarditis; chronic passive congestion of liver; amyloid spleen.

H. G. E.  
P. M. C.

# LXVI.

C. W.; age, 54; white; nativity, Finland; seaman; single; admitted June 6, 1904; died August 31, 1904.

**PERSONAL HISTORY.**—General health good until he contracted tuberculosis. Gives about three months as probable previous duration of disease, had considerable cough, raised some sputum, no bacilli found, had some evening rise of temperature, had hemorrhages, slight dyspnea and pleuritic pains, but no night sweats. Physical examination: Showed partial consolidation at apices, some few râles over almost entire left lung and some few at apex of right; expansion, 2½ inches. Heart, sputum, and urine negative. Hæmoglobin 65 per cent.

**Necropsy.**—September 1, 1904, 1.30 p. m. Hair scant, musculature fair, rigor mortis present throughout; five-pointed star tattooed on each shoulder, eagle on left forearm, portrait on right; cadaveric lividity over back; subcutaneous fat fairly well preserved. Abdominal cavity: Peritoneum moist and glistening; colon greatly distended with gas; lymph glands negative. Liver: Weight, 1,850 grams; gall bladder somewhat enlarged and filled with bile; cystic duct patent; on section liver is negative. Spleen: Weight, 125 grams, very soft to feel, connective tissue increased, vessels engorged, follicles not visible. Kidneys: Right, weight, 250 grams, greatly congested, capsule adherent, fatty capsule fair in amount. Left, weight, 205 grams; similar in all respects to right. Intestines, a few small ulcers in jejunum, remainder of intestines negative. Stomach, pancreas, adrenals, bladder and prostate, negative. Chest cavity: Left lung strongly adherent, right free from adhesions. Left pleural cavity contains considerable sero-sanguinous fluid, lower pleura coated with fibrinous material. Heart: Weight, 360 grams. External surface normal in appearance, valves normal; right side contains mixed clots. Lungs: Right, anterior border emphysematous, lower lobe posteriorly much congested, whole lung air-containing. Left, upper lobe contains a large abscess cavity filled with foul-smelling pus, lower lobe also contains similar cavity size of an orange; remainder of lung consolidated and infiltrated throughout. Larynx: Mucous membrane somewhat granular in appearance, otherwise negative.

H. G. E.  
P. M. C.

# LXVII.

J. J.; age, 65 years; color, white; admitted October 10, 1904; died January 13, 1905.

**Necropsy.**—Died January 13, 1905, 6.50 p. m.; necropsy January 14, 1905, 2 p. m. Medium build, rigor mortis present, hypostatic congestion over dorsal surfaces. Abdominal section: Abdominal aorta negative. Serous sacs and subcutaneous tissues dropsical, musculature fair in amount. Chest cavity: About 250 c. c. clear fluid in left pleural cavity, about 200 c. c. of fluid in pericardium. Left lung: Weight, 320 grams; apex shows scar tissue and passive congestion. Right lung: Weight, 650 grams; adherent throughout, upper lobe infiltrated and oedematous, cavity in upper part of lower lobe. Heart: Weight, 270 grams; walls oedematous, otherwise negative. Liver: Weight, 1,250 grams; left lobe is the seat of a hard white elastic growth, slightly bile stained, about two inches in diameter, with other small nodules scattered throughout liver substance. Gall bladder: Distended with dark bile, cystic duct impervious. Stomach shows oedema and passive congestion. Kidneys: Right, weight, 130 grams; left, weight, 180 grams; negative. Spleen: Weight, 130 grams; negative. Adrenals: Oedematous, otherwise negative. Intestines: Walls oedematous.

**MICROSCOPICAL EXAMINATION.**—Shows tumor in liver to be a spindle-celled sarcoma.

**DIAGNOSIS.**—Tuberculosis of lungs; spindle-celled sarcoma of liver.

H. G. E.  
J. B. G.

## LXVIII.

J. M.; white; age, 38; nativity, Ireland; single; seaman; admitted May 6, 1904; died September 7, 1904.

Family history negative. Personal history: Has had gonorrhea and chancreids. Symptoms of tuberculosis began about five months ago with persistent cough and expectoration, sputum contained bacilli; has had little fever, no night sweats nor hemorrhages, dyspnea only slight and for about a month and a half, has had some pleuritic pain, complained of dryness of throat and some huskiness of voice. Physical examination on admission showed: Emaciation considerable; lungs showed excavation at both apices, consolidation for about the upper one-third of both lungs; right lung showed râles to base; left to base anteriorly and upper one-half posteriorly. Heart negative. Sputum contained tubercle bacilli. Urine negative. Hemoglobin 65 per cent.

NECROPSY.—September 7, 1904, 2 p. m. External appearances: Medium build; fairly well nourished; pupils dilated and equal; rigor mortis present only in muscles of jaw; body heat absent; hypostasis present over back, buttocks, and ears; musculature small; subcutaneous fat, small in amount. Abdominal cavity: Peritoneum moist and glistening. Appendix is curled around a small abscess cavity the size of a filbert, which is surrounded by omentum and small intestines, the whole mass being adherent to abdominal wall in right iliac region; mesenteric lymph glands enlarged; abdominal aorta negative. Liver: Weight, 2,120 grams; substance friable, shows increase of connective tissue, fatty changes, and passive congestion. Spleen: Weight, 290 grams; shows increase of connective tissue and passive congestion. Kidneys: Right, weight, 170 grams; shows great congestion. Left, weight, 175 grams; same as right. Intestines: Small intestine contains ulcerations, appendix is perforated and surrounds an abscess cavity. Stomach, pancreas, adrenals, bladder, and prostate negative. Lungs: Right, upper lobe adherent anteriorly and posteriorly; honeycombed throughout with cavities and infiltrated throughout with tubercles. Left: Upper lobe adherent; honeycombed with cavities; lung very oedematous and infiltrated from apex to base with tubercles. Heart: Weight, 300 grams; pale and flabby, left side hypertrophied, right auricle and ventricle dilated and walls thin, mitral valve is somewhat thickened Thoracic aorta shows beginning sclerosis. Larynx congested, both vocal cords practically destroyed by ulceration.

DIAGNOSIS.—Tuberculosis of lungs, larynx, and intestines; degeneration of myocardium and thickening of mitral valve; beginning sclerosis of aorta; passive congestion of liver, spleen, and kidneys; beginning interstitial hepatitis.

H. G. E.  
P. M. C.

## LXIX.

P. C.; age, 23; white; admitted July 16, 1904; died October 24, 1904.

NECROPSY.—Died October 24, 1904, 10.05 p. m.; necropsy October 25, 1904, at 2 p. m. External appearances: Skin of face yellowish, oedema of legs and thighs, rigor mortis present throughout, body heat absent, build medium, emaciation very slight, pupils equal, hypostatic congestion over back and scrotum. Abdominal section: Subcutaneous fat small in amount, musculature poor, yellowish green fluid in considerable quantities flows from abdominal incision, peritoneum smooth and shiny. Chest cavity: Anterior mediastinum negative, pericardial sac contains 50 c. c. clear fluid, right lung adherent at apex, left lung adherent throughout. Liver: Weight, 1,670 grams; shows chronic passive congestion and some increase of connective tissue. Spleen: Weight, 170 grams; capsule thickened, malpighian bodies visible, spleen shows passive congestion. Kidneys: Right, weight 180 grams; shows considerable passive congestion, otherwise negative. Left, weight, 167 grams; similar in all respects to right. Intestines negative. Stomach shows passive congestion. Pancreas somewhat enlarged, otherwise negative. Adrenals, bladder, and prostate negative. Heart considerably enlarged, right side greatly engorged, mitral valve thickened. Lungs: Right, weight, 790 grams; apex contains several small cavities size of filberts walled off by fibrous tissue, one or two calcareous nodules in middle and upper lobes, lower lobe contains number of small tubercles, dependent parts of lower lobe show hypostatic congestion. Left, sclerotic and indurated, apex contains several cavities size of walnuts, numerous small cavities throughout,

base contains numerous hard tubercles. Larynx: Congested, otherwise normal. Thyroid gland considerably enlarged.

DIAGNOSIS.—Tuberculosis of lungs, chronic passive congestion of liver, acute parenchymatous nephritis, amyloid degeneration of spleen.

H. G. E.  
P. M. C.

## LXX.

M. R.; aged 52 years; color, white; admitted October 15, 1904; died February 16, 1905.

PHYSICAL EXAMINATION.—Right lung, bronchial breathing throughout, amphoric breathing at third rib, broncho-vesicular to base. Left lung, bronchial breathing to second rib, moist rales to base. Whispering pectoriloquy at first interspace; moist rales to base; whispering pectoriloquy at second rib posteriorly.

NECROPSY.—Died February 16, 1905, 8.30 a. m.; necropsy held February 17, 1905, at 1.30 p. m. Medium build, considerably emaciated, tombstone tattooed on right forearm, body heat absent, rigor mortis present throughout, pupils equal. Abdominal section: Subcutaneous fat small in amount, musculature poor, peritoneum normal in appearance, a few of the mesenteric glands enlarged. Right lung: Adherent as far down as third rib; upper lobe contains a cavity size of an orange, containing a little muco-pus; remainder of lung filled with tubercles. Left lung: Adherent throughout; infiltrated throughout with small tubercles; no cavities evident. Heart: Weight, 305 grams; negative. Liver, Weight, 1,330 grams; dark in color, some passive congestion, and increase in connective tissue. Spleen: Weight, 125 grams; small, surface light in color and pale on section; apparent increase in connective tissue. Right kidney: Weight, 140 grams. Left kidney: Weight, 175 grams. Intestines: Ulceration of cæcum and colon, lumen of appendix partly obliterated. Stomach: Walls very much congested. Pancreas, bladder, prostate, and larynx negative.

MICROSCOPICAL EXAMINATION shows millary tubercles and passive congestion in liver.

DIAGNOSIS.—Tuberculosis of lungs, liver, and intestines; passive congestion of liver.

H. G. E.  
P. M. C.

## LXXI.

C. M.; age, 35 years; white; admitted to Fort Stanton Sanatorium June 29, 1904; died September 18, 1904.

NECROPSY.—Died September 18, 1904, 5.45 p. m.; necropsy held September 19, 1904, at 1.30 p. m. Slender build, emaciated, hypostatic, congestion over back and buttocks, pupils equal, rigor mortis present throughout, body heat absent. Abdominal section: Musculature and subcutaneous fat small in amount; liver comes to costal margin right side; peritoneum smooth, shining, and moist; omentum poor in fat; mesenteric lymph glands enlarged; retro-peritoneal glands enlarged; abdominal aorta negative. Chest cavity: Anterior mediastinum negative. Right lung adherent throughout, left adherent at apex. Right lung: Apex contains cavity size of hen's egg and numerous other smaller ones; remainder of lung is densely infiltrated with tubercles. Left lung: Densely infiltrated with tubercles from apex to base. Heart: Pericardial sac contains about 15 c. c. of straw-colored fluid, heart weighs 220 grams, heart muscle flabby, valves normal. Spleen: Weight, 170 grams; capsule thickened in spots, firm, very dark, fibrous tissue increased. Right kidney: Weight, 145 grams; fibrous capsule strips easily, few yellowish spots in cortex. Left kidney: Weight, 150 grams; same as left with exception of one yellow spot in pyramid. Adrenals, stomach, bladder, and prostate negative. Pancreas: Congested. Liver: Weight, 1,460 grams; gall bladder filled with bile, Glisson's capsule thickened in places; liver shows passive congestion. Intestines: Lower part of small intestine is dark in color, small pin point yellow spots noted beneath peritoneal coat, some of intestinal coils adherent to each other. Many large ulcers extending to serous coat found lower jejunum to cæcum. Larynx: Epiglottis, vocal cords, and arytenoids thickened and ulcerated. Uvula: Ulcerated.



**MISCROSCOPICAL EXAMINATION.**—Spleen: Shows amyloid degeneration. Liver: Shows small miliary tubercles. Kidneys: Show a small tubercle and cloudy swelling of tubular epithelium. Uvula: Shows tuberculous ulceration.

**DIAGNOSIS.**—Tuberculosis of lungs, larynx, pharynx, intestines, liver, kidneys, and uvula; amyloid degeneration of spleen.

H. G. E.

P. M. C.

## LXXII.

A. B. Y.; white; age, 25; nativity, Kentucky; admitted October 28, 1903; died August 18, 1904.

**PERSONAL HISTORY.**—Has had pneumonia and influenza; gonorrhea twice. Present trouble began with cough about four months before coming to Fort Stanton. Raised sputum for about two months. Sputum contained bacilli. Had afternoon fever, night sweats, some dyspnea, pleuritic pains, and several hemorrhages. Hemoglobin, 50 per cent. Disease progressed steadily without check until death.

Physical examination on admission showed: Chest somewhat flattened, mobility somewhat poor, mensuration gave expansion as 6 cm. Percussion, slight relative dullness at right apex, both anteriorly and posteriorly. On auscultation: Moist râles, right apex to below nipple anteriorly, to base posteriorly. A few moist râles from left apex to fourth rib anteriorly and to seventh spine posteriorly; cogwheel respiration over left lung; breath sounds vesicular over both lungs.

**NECROPSY** (August 18, 1904).—Rigor mortis slight, except in legs; emaciation quite marked; pupils dilated, left larger of the two; hair scant and red in color; hypostatic congestion over back and buttocks; subcutaneous fat slight in amount; musculature very small. Abdominal cavity: Peritoneum moist and glistening; omental, fat slight in amount; mesenteric and retro-peritoneal lymph glands enlarged; mesenteric vessels show passive congestion; numerous whitish nodules in peritoneal coat of intestines; retro-peritoneal abscess size of lemon. Liver: Weight, 1,530 grams; shows amyloid degeneration; passive congestion and increase of connective tissue. Kidneys: Right, weight, 115 grams; fibrous capsule adherent; shows passive congestion; cortex narrow; shows tubercles. Left, weight, 126 grams; same as right. Spleen: Weight, 255 grams; shows amyloid degeneration, passive congestion, and increase of connective tissue: Intestines: Both large and small intestines lined throughout with small ulcers. Stomach negative. Bladder distended and contains about 600 cc. amber-colored urine. Adrenals, pancreas, and prostate negative. Lungs: Both lungs adherent throughout, are honeycombed with cavities, and infiltrated with consolidated areas and tubercles; both lungs so adherent that removal is impossible. Heart: Weight, 210 grams; muscle pale and flabby. Left ventricle contains a white clot; aorta beginning to show sclerosis; valves thickened.

**MICROSCOPICAL EXAMINATION.**—Liver shows miliary tubercles, increase of connective tissue, and fatty infiltration. Spleen shows amyloid degeneration.

**DIAGNOSIS.**—Tuberculosis of lungs, intestines, kidneys, and liver; amyloid degeneration of spleen; fatty infiltration of liver; degeneration of myocardium, thickening of cardiac valves, and beginning sclerosis of aorta.

H. G. E.

P. M. C.

## LXXIII.

J. McC.; age, 43; color, white; admitted May 12, 1905; died May 30, 1905.

Previous duration of tuberculosis, fifteen months. Family history: Mother died heart disease; brother died of asthma. Personal history of malaria and syphilis. Physical examination: Right lung, anteriorly, bronchial breathing and scattered whispered pectoriloquy to third rib; friction to base. Posteriorly, bronchial breathing to eighth rib. Left lung, anteriorly, marked friction throughout, bronchial breathing and whispered pectoriloquy to fifth rib. Posteriorly, marked friction sounds throughout, bronchial breathing to eighth rib, whispered pectoriloquy at apex. Sputum contained tubercle bacilli. Urine, sediment heavy with amorphous deposit; albumen present.

**NECROPSY** (May 31, 1905, 1.30 p. m.).—External appearances: Large build, fairly well nourished, hypostatic congestion over back and sides of trunk and

limbs. Some œdema of ankles, healed varicose ulcer over right shin, forearms and hands tattooed, pupils dilated and equal, body heat absent, rigor mortis present. Abdominal section: Musculature and subcutaneous fat fair in amount, peritoneal surfaces appear normal, considerable fluid in peritoneal cavity, liver comes to costal margin, mesenteric lymph glands enlarged, abdominal aorta shows some sclerosis. Lungs: Right, weight, 1,070 grams; contains a number of cavities in upper lobe and a large amount of fibrous tissue. Left, weight, 1,580 grams; much the same as right but somewhat more advanced. Heart: Weight, 495 grams; large and flabby, but otherwise negative. Liver: Weight, 2,370 grams; large, pale in color, and apparently fatty. Spleen: Weight, 280 grams; rather large, dark in color, and shows some increase in connective tissue. Kidneys: Right, weight, 210 grams; capsule slightly adherent and organ shows evidence of beginning parenchymatous nephritis. Left, weight, 220 grams; same as right. Intestines: Scattered ulcers throughout ileum and cæcum, those of cæcum very large. Pancreas, oedematous and congested. Stomach shows some congestion of mucous membrane. Adrenals, bladder, and prostate negative.

**MICROSCOPICAL EXAMINATION.**—Liver shows fatty infiltration; many hemorrhagic spots. Kidneys, degeneration of tubular epithelium well advanced, some portions almost completely broken down. Spleen shows an increase of connective tissue and amyloid degeneration.

**DIAGNOSIS:** Tuberculosis of lungs and intestines. Parenchymatous nephritis. Fatty infiltration of liver. Amyloid degeneration of spleen. Beginning atheroma of aorta.

H. G. E.  
P. M. C.

#### LXXIV.

J. F.; age, 35; color, white; admitted, April 24, 1903; died, June 1, 1905.

Previous duration of tuberculosis not recorded. Family history negative.

**PHYSICAL EXAMINATION** (January 5, 1905).—Right lung, anteriorly; bronchial breathing to second interspace; bronchovesicular breathing and moist râles to third interspace; whispered pectoriloquy under clavicle. Posteriorly bronchial breathing, and faint whispered pectoriloquy to sixth rib; bronchovesicular breathing to eighth rib. Left lung, anteriorly bronchovesicular breathing to third interspace; whispered pectoriloquy faint below clavicle. Posteriorly, bronchovesicular breathing to eighth rib, with patches of bronchial breathing and faint whispered pectoriloquy. Heart: Roughened mitral first sound, with accentuated pulmonic second. Sputum contained tubercle bacilli. Urine negative.

**NECROPSY** (June 1, 1905, 2 p. m.).—External appearances: Rather tall, considerably emaciated, hypostatic congestion slight over back, rigor mortis present, pupils somewhat dilated, right slightly more than left. Abdominal section: Musculature fair, subcutaneous fat small in amount, peritoneal surface apparently normal, liver comes to costal margin, mesenteric lymph glands enlarged. Lungs: Right, weight, 930 grams; adherent at apex, cavity the size of a lemon, a few scattered tubercles below, hypostatic congestion posteriorly, lung is emphysematous throughout. Left, weight, 880 grams, adherent throughout, same as right, save cavity is larger and contains more fibrous tissue in cavity walls. Heart: Weight, 315 grams; negative save for slight thickening of mitral valve. Liver: Weight, 1,730 grams; light in color and contains an apparent increase of connective tissue. Kidneys: Right, weight, 152 grams; negative. Left, weight, 185 grams; negative. Spleen: Weight, 170 grams, negative. Intestines show ulceration from jejunum to cæcum. Stomach, pancreas, adrenals, and bladder negative. Prostate slightly enlarged. Larynx: Epiglottis half ulcerated away, posterior surface raw, arytenoid folds ulcerated and thickened.

**MICROSCOPICAL EXAMINATION.**—Liver shows slight increase of connective tissue. Spleen shows amyloid degeneration. Kidneys, negative.

**DIAGNOSIS.**—Tuberculosis of lungs, larynx, and intestines; amyloid degeneration of spleen; interstitial hepatitis.

H. G. E.  
P. M. C.

## LXXV.

J. T.; age, 24; color, black; admitted June 20, 1904; died June 15, 1905.

Previous duration of tuberculosis, one year. Family history negative. Personal history of pneumonia and pleurisy, with effusion. Physical examination (March 16, 1905): Right lung, anteriorly, bronchial breathing to second interspace. Faint whispered pectoriloquy under clavicle. Absence of breath and voice sounds in lower axilla. Right lung, posteriorly, breath sounds somewhat muffled, but broncho-vesicular breathing to seventh rib. Left lung, anteriorly, bronchovesicular breathing throughout, most marked at apex. Sounds in axilla muffled, less so than on right. Heart, sputum, and urine negative.

Necropsy (June 16, 1905, at 1.30 p. m.).—External appearances: Color black, slender build, considerable emaciation, several scars over both knees and shins, abdomen somewhat distended, hypostatic congestion over back of trunk and limbs, pupils dilated and equal, rigor mortis present throughout, body heat absent. Abdominal section: Musculature and subcutaneous fat small in amount, intestines distended with gas; intestinal peritoneum shows several whitish granular spots, liver comes to costal margin, mesenteric lymph glands enlarged, abdominal aorta negative. Lungs: Right, adherent from apex to base, infiltrated with numerous tubercles, several caseous areas the size of marbles at apex. Left, slightly adherent at base, infiltrated throughout with tubercles. Heart: Weight, 270 grams; organ is dilated, chordæ tendinæ of mitral and tricuspid valves are somewhat shortened, right heart filled with red clot. Liver: Weight, 1,530 grams; negative. Spleen: Weight, 165 grams; red and beefy and surface uneven on section, connective tissue increased. Kidneys: Left, weight, 110 grams; pale and small. Right, weight, 120 grams; same as left, except that several small whitish areas are visible. Intestines: Several small ulcers in lower jejunum and upper ileum. Stomach, pancreas, adrenals, bladder, prostate, and larynx, negative.

MICROSCOPICAL EXAMINATION.—Liver and spleen show many small tubercles. Kidneys also show tubercles.

DIAGNOSIS.—Tuberculosis of lungs, liver, spleen, kidneys, and intestines; cardiac dilatation, with shortening of chordæ tendinæ and contraction of mitral valve.

H. G. E.  
P. M. C.

## LXXVI.

H. J.; age, 43; white; admitted April 21, 1905; died May 21, 1905.

Previous duration of tuberculosis, four months. Physical examination: Right lung, anteriorly, bronchial breathing and whispered pectoriloquy under inner end of clavicle. Broncho-vesicular breathing to second interspace. Posteriorly, bronchial breathing and slight friction to fourth rib. Faint whispered pectoriloquy at apex. Left lung, anteriorly, breath sounds muffled throughout, especially at base and in axilla. Heart, sputum, and urine negative.

Necropsy (May 22, 1905, 3 p. m.).—External appearances: Emaciation marked, hypostatic congestion over back of trunk and limbs, purplish discoloration on lower abdomen, pupils dilated and equal, body heat absent, rigor mortis present throughout. Abdominal section: Musculature and subcutaneous fat small in amount, peritoneal surface dark in color but moist and glistening. Liver reaches three fingers' breadth below costal margin right side. Abdominal aorta negative, mesenteric glands enlarged. Lungs: Right, adherent throughout, numerous tubercles in upper lobe; left, adherent, considerable effusion in pleural cavity, a few scattered tubercles at apex. Heart: Weight, 195 grams; negative. Liver: Weight, 1,340 grams; numerous yellowish nodules throughout. Spleen: Weight, 150 grams; red in appearance, with round translucent granules scattered throughout. Kidneys: Right, weight, 130 grams; capsule strips easily, small yellowish nodules scattered throughout; left, weight, 100 grams; a few whitish nodules in cortex. Intestines show numerous ulcers in ileum and cæcum. Bladder negative. Stomach, pancreas, adrenals, and prostate negative. Brain: Weight, 1,225 grams; meningeal congestion very marked, and excess of cerebro-spinal fluid; ventricles are distended with fluid.

MICROSCOPICAL EXAMINATION.—Liver and spleen show many small tubercles. Kidneys also show tubercles.

DIAGNOSIS.—Tuberculosis of lungs, liver, spleen, kidneys, and intestines; acute meningeal congestion.

H. G. E.  
P. M. C.

## LXXVII.

W. P.; age, 35; color, white; admitted May 16, 1905; died June 21, 1905.

Previous duration of tuberculosis about one year. Personal history negative. Family history negative. Physical examination, May 17, 1905: Right lung, anteriorly, bronchial breathing to third interspace; whispered pectoriloquy to second rib; posteriorly, bronchial breathing to fourth rib; friction to seventh rib; whispered pectoriloquy faint at apex. Left lung, anteriorly, bronchial breathing to second rib; marked friction throughout; posteriorly, bronchial breathing and friction to eighth rib; whispered pectoriloquy to fourth rib. Heart normal. Sputum contained tubercle bacilli. Urine negative.

NECROPSY.—Died June 21, 1905, 4 a. m.; necropsy June 22, 1905, 1.30 p. m. External appearances: Emaciation marked, hypostatic congestion over back of trunk and limbs, pupils dilated and equal, rigor mortis present throughout, body heat absent. Abdominal section: Musculature and subcutaneous fat small in amount, intestinal peritoneum shows several granular spots, liver comes to costal margin, mesenteric and retro-peritoneal lymph glands are enlarged, abdominal aorta negative. Lungs: Right adherent throughout, apex shows cavity the size of a walnut, remainder of lung is infiltrated with tubercles; left, slightly adherent on posterior aspect, apex shows cavity the size of a small orange, remainder of lung is partially infiltrated. Heart: Weight, 310 grams; pericardial sac contains about 25 c. c. of sero-fibrinous fluid, wall of right ventricle is somewhat thickened and pale in appearance, valves are apparently normal. Liver: Weight, 1,900 grams; negative. Spleen: Weight, 145 grams; negative. Kidneys: Right, weight, 205 grams; pale in color, but otherwise negative. Left, weight, 190 grams; same as right. Intestines: Small intestines are ulcerated throughout; appendix is about 10 inches in length. Stomach, pancreas, adrenals, bladder, and prostate negative. Larynx: Epiglottis shows considerable thickening, and mucus membrane of larynx is granular in appearance.

DIAGNOSIS.—Tuberculosis of lungs, liver, larynx, and intestines.

H. G. E.  
P. M. C.

## LXXVIII.

C. C.; age, 34; color, black; admitted August 16, 1904; died June 15, 1905.

Previous history of tuberculosis, one year. Family history negative. Personal history of syphilis and smallpox. Physical examination (August 18, 1904): Few râles over both lungs; harsh bronchovesicular breathing over entire chest, but decidedly more marked over right upper lobe; vocal fremitus much exaggerated on right side, especially over upper lobe; heart negative; sputum contained tubercle bacilli; urine negative.

NECROPSY (June 16, 1905, 2.30 p. m.).—External appearances: Color, black; medium build; fairly well nourished; hypostatic congestion over back of trunk and limbs; muscles of left leg and arm are somewhat atrophic, and skin of these regions is scaly in appearance; pupils medium in size and equal; rigor mortis present throughout; body heat absent. Abdominal section: Musculature and subcutaneous fat, good; peritoneal surfaces normal in appearance; liver lacks one finger's breadth of coming to costal margin; mesenteric fat well preserved; abdominal aorta negative. Lungs: Right, adherent from apex to base; two small cavities at apex; lung consolidated throughout. Left, both lobes infiltrated with tubercles and consolidated areas. Heart: Weight, 340 grams; pericardial surfaces are adherent throughout; both ventricles filled with mixed clot; aortic valves somewhat contracted; muscle pale and flabby; organ is somewhat enlarged. Liver: Weight, 1,420 grams; cuts with some resistance, and substance is rather light in color. Spleen: Weight, 270 grams; very soft and friable, otherwise normal. Kidneys: Right, weight, 175 grams; somewhat congested. Left, weight, 160 grams; same as right. Intestines, stomach, pancreas, adrenals, bladder, and prostate negative. Brain: Weight, 1,220 grams; a number of small granules of calcareous material on inner surface of meninges, in position of pachionian bodies; pituitary body is enlarged to size of chestnut. In the substance of the right hemisphere, about a quarter of an inch beneath the inner surface of the hemisphere, and located in the motor area, is a tumor the size of a small egg, which is somewhat nodular on the surface, is firm, and shows concentric rings on section; shells out of brain substance easily.

**MICROSCOPICAL EXAMINATION.**—Cerebral tumor, giant celled sarcoma. Liver shows apparent small growth similar to cerebral tumor (metastatic sarcomata). Spleen shows same condition as liver, small areas of apparently metastatic sarcomatous growth. Kidneys negative.

**DIAGNOSIS.**—Tuberculosis of lungs; sarcoma of cerebrum, with small metastatic sarcomata of liver and spleen.

H. G. E.  
P. M. C.

#### LXXIX.

J. A.; age, 34; white; admitted February 3, 1904; died September 24, 1904. Personal history, asthma. Family history negative. Duration of tuberculosis unknown. Physical examination showed: Whole chest lacking markedly in resonance, expiration prolonged over whole chest, bronchial breathing to nipple and angles of scapulae, gurgling râles over upper left chest, some few râles over right chest. Heart normal. Urine contained albumen. Sputum showed tubercle bacilli.

**NECROPSY.**—Died September 24, 1904, 4 p. m.; autopsy September 25, 1904, 1.30 p. m. External appearances: Medium build, emaciated, scaphoid abdomen, pupils equal, rigor mortis present throughout, body heat absent, hypostatic congestion over back of trunk. Abdominal section: Subcutaneous fat moderate in amount, musculature small, peritoneum normal in appearance, omentum rich in fat, mesenteric lymph glands enlarged slightly, some small whitish nodules visible on peritoneum, abdominal aorta negative. Intestines: Lower ileum almost black in appearance, ulcers varying in size, penetrating to serous coat, and in many cases showing scars from peritoneal surface, are present throughout the small intestines. Spleen: Weight, 271 grams; gives amyloid reaction with Lugol's solution. Kidneys: Left, weight, 223 grams; large white kidney, glomeruli give amyloid reaction with Lugol's solution. Right, weight, 221 grams; similar to left. Liver: Weight, 1,830 grams; firm to feel, two grooves on upper surface, Glisson's capsule thickened, light yellow pin head dots beneath peritoneum, on section shows tubercles throughout, and gives amyloid reaction. Gall bladder filled with bile, cystic duct patent. Stomach: Somewhat distended, otherwise negative. Pancreas, bladder, and prostate negative. Chest cavity: Anterior mediastinum negative. Right lung adherent posteriorly at apex; left lung throughout, pericardial sac negative. Lungs: Right, weight, 850 grams; cavity in apex of lemon; infiltrated throughout upper three-fourths. Left, upper lobe honeycombed with cavities; lower lobe is infiltrated to base. Heart Weight, 232 grams; pale and flabby, right heart contains a white clot, valves normal. Larynx: Several small ulcers, one linear ulcer on vocal cords and below.

**MICROSCOPICAL EXAMINATION.**—Liver showed many small tubercles, section examined showed no amyloid. Kidneys showed cloudy swelling of tubular epithelium, slight increase of connective tissue and amyloid degeneration of glomeruli. Spleen showed amyloid degeneration. Accessory spleen also showed amyloid degeneration.

**DIAGNOSIS.**—Tuberculosis of lungs, larynx, intestines, and liver. Amyloid degeneration of kidneys, spleen, and accessory spleen.

H. G. E.  
P. M. C.

#### LXXX.

T. S.; white; male; age, 31; admitted to United States Marine Hospital, Detroit, Mich., November 9, 1904; died November 12, 1904.

He was frequently treated at the out-patient office at this port during the past two years for chronic bronchitis. Six weeks ago, while working as oiler on a lake steamer, his cough increased and expectoration became profuse. There was no pain. He grew weak, short of breath, and had occasional night sweats. He was an ambulence case, slightly cachectic, very dyspnoeic and weak, with severe diarrhoea. Examination showed extensive involvement of both lungs and a tender, distended abdomen. Tubercle bacilli, pus cells, and elastic tissue were found in the sputum. November 11 he had bowel hemorrhages and lapsed into a state of collapse with intense pain. Symptoms of general peritonitis developed rapidly and death occurred twenty-four hours later.

**NECROPSY** (2 hours after death).—Skin pale, body not greatly emaciated; abdomen distended and tympanic. Calvarium not removed. Heart normal;

valves competent; weight, 240 grams. Both pleural cavities obliterated by adhesions. Left lung has large cavity at apex. Both lungs nearly consolidated throughout. Great vessels of chest and abdomen distended with blood. Omentum normal. Spleen congested; weight, 350 grams. Liver normal; weight, 1,450 grams. Pancreas normal; weight, 109 grams. Kidneys normal; right and left weigh, respectively, 210 grams and 190 grams. Intestines distended with gas; 1,000 c. c. of serous fluid free in abdominal cavity. Masses of plastic lymph in the hypogastric region bind coils of small intestines together in fresh adhesions and cover a perforation in the jejunum. Other masses of plastic exudate cover small dark spots, which are seen to be ulcers at various points on small intestines, visible through the visceral peritoneum. Superficial vessels congested; peritoneum dull and sticky; adhesions of large and small intestines at numerous points. A portion of the jejunum, a meter in length, contains a large number of tuberculous ulcers, some so deep as to be easily seen through peritoneum, others more superficial, visible only upon the mucous surface. The perforation was the small point of a deep ulcer.

F. C. S.

H. W. A.

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# STATISTICAL TABLES.

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## STATISTICAL TABLES.

The following statistical tables are self-explanatory:

TABLE I.—COMPARATIVE TABLE OF NUMBER TREATED—1868 TO 1905.

The following tabular statement will serve to illustrate the growth of the service since its reorganization in 1871:

*Operations of the Service from July 1, 1868, to June 30, 1905.*

Fiscal year.	Number of places at which re- lief was furnished.	Number of sick and disabled seamen furnished relief.
Prior to reorganization:		
1868.....	64	11,536
1869.....	64	11,356
1870.....	74	10,560
After reorganization:		
1871.....	72	14,256
1872.....	81	13,156
1873.....	91	13,529
1874.....	91	14,356
1875.....	94	15,009
1876.....	94	16,808
1877.....	100	15,175
1878.....	210	18,223
1879.....	210	20,922
1880.....	210	24,860
1881.....		32,613
1882.....		36,184
1883.....		40,195
1884.....		44,761
1885.....		41,714
1886.....		43,822
1887.....		45,314
1888.....		48,203
1889.....		49,518
1890.....		50,671
1891.....		52,992
1892.....		53,610
1893.....		53,317
1894.....		52,803
1895.....		52,643
1896.....		53,804
1897.....		54,477
1898.....		52,709
1899.....		55,489
1900.....		56,355
1901.....		58,381
1902.....		56,310
1903.....		58,573
1904.....		58,556
1905.....		57,013

TABLE II.—EXHIBIT OF THE OPERATIONS OF THE SERVICE DURING THE FISCAL YEAR ENDED JUNE 30, 1905.

Port.	Total number of seamen treated.	Patients in hospital July 1, 1904.	Admitted during the year.	Total number treated in hospital.	Diseases charged.	Died.	Remain- ing in hospital June 30, 1905.	Number of days relief in hospital.	Number of seamen furnished office re- lief.	Number of times office re- lief was fur- nished.	Number of persons examined physio- ally, in- cluding pilots.	Amount expended.	Tonnage tax collected.
<b>Grand total.</b>	<b>57,018</b>	<b>1,087</b>	<b>18,624</b>	<b>14,661</b>	<b>12,106</b>	<b>522</b>	<b>1,083</b>	<b>431,622</b>	<b>42,852</b>	<b>67,954</b>	<b>5,000</b>	<b>\$1,188,927.23</b>	<b>\$858,836.59</b>
Advertising.													
Alexandria, Va.												55.32	
Albany, N. Y.												269.05	68.55
Albuquerque, N. M.	5	1	4	5	5			147	13	112		663.00	
Albuquerque, Fla.	78		23	23	22	1		236	105	106		722.70	881.55
Annapolis, Md.	140	3	22	25	23		2	551	105	112		1,245.75	
Annapolis, Ohio.	308		72	72	68	1	4	700	298	416	6	1,977.34	
Ashtabula, Ohio.	115		21	23	19		4	313	92	153	28	19,151.35	6,432.06
Baltimore, Md.	1,188	41	444	485	411	26	43	20,040	703	904	185	46,442.97	46,442.97
Baltimore, Md.	91	3	11	14	14			262	77	255	42	839.50	83.04
Baltimore, Md.	130								130	255		291.32	31.04
Barnstable, Mass., and subports.	125								125	255		311.64	116.49
Bath, Me.	104		4	4	4			31	160	164	10	473.92	543.00
Beaufort, N. C.	31								31	42	91	62.90	109.66
Beaufort, S. C.													
Belfast, Me.													
Bismarck, N. Dak.	2		2	2	2			13				217.07	
Boothbay Harbor, Me.												137.18	
Boston, Mass.	153		9	9	8		1	148	144	147	4	528.11	
Boston, Mass.	3,092	44	860	904	895	22	57	20,650	2,188	3,869	225	28,800.87	73,623.09
Bridgeport, Conn.	13		11	11	8	1	2	175	2			194.36	354.94
Bridgewater, R. I.													372.84
Bristol, R. I.													7.98
Brownsville, Tex.	247	1	31	32	31			871	215	299		150.00	4,572.36
Brownsville, Tex.	2,426	15	477	492	453	10	29	7,870	1,984	3,351	36	1,351.49	
Burlington, Iowa.	13		10	10	9		1	176	3			15,213.10	
Burlington, Vt.												179.00	295.71
Cambridge, Md.	734	20	249	269	255	7	6	4,468	465	594	1	12,293.44	
Cambridge, Md.	39		40	40	38	2		567	19	24		686.00	
Cape Vincent.													
Caskey, Me.	272												
Cedar Keys, Fla.	810	4	93	97	93			1,029	272	389		3.00	241.32
Charleston, S. C.							2		713	985	35	2,248.79	2,906.73
Charleston, Tenn.	2,730	26	493	524	458	22	44	18,160	2,206	2,327	66	27,317.97	6,271.92
Chicago, Ill.	466	11	141	152	140	5	4	2,867	1,854	3,024	13	12,632.88	
Cincinnati, Ohio.							34	12,952	1,737		37	16,204.86	1,109.61
Cleveland, Ohio.	2,166	28	391	419	370	15							24.60
Cocoa Bay, Ore.													
Corpus Christi, Tex.	4								4	13	13	52.60	

Crisfield, Md.	102									102	128			319.50	
Darien, Ga.	14									14	17			168.41	
Delaware Breakwater, Del.	226									223	252			187.19	
Detroit, Mich.	1,742	17								1,370	2,820			24,147.11	70.14
Dubuque, Iowa.	24									13	21			640.67	
Duluth, Minn.	333									297	340			733.17	
Eastport, Me.	5									5	10			28.75	
Edenton, N. C.	82									80	106			151.50	
Edgartown, Mass.	1									1	1			2.50	
Elizabeth City, N. C.	49									49	56			305.00	175.44
Ellsworth, Me.	13									13	48			304.90	44.82
El Paso, Tex.	233													879.34	
Erie, Pa.	108									168	201			1,250.00	437.52
Escanaba, Mich.	57									89	89			590.35	
Eureka, Cal.	805	1								41	64			586.65	6.90
Evansville, Ind.		12								654	816			13,880.90	
Fall River, Mass.	156														
Fernandina, Fla.										135	167			751.45	28.01
Fredericksburg, Va.	385													5,999.79	
Fort Stanton, N. Mex.		192												9.07	
Fuel, lights, and water														95,719.66	
Furniture and repairs to furniture.														80,191.44	
Gallipoli, Ohio.	158													3,870.86	
Galveston, Tex.	735	3								100	247			1,624.40	
Georgetown, S. C.	306	10								560	810			7,839.73	
Georgetown, Mass.	265	2								242	303			1,538.59	
Government Hospital for the Insane.	39	36								239	358			1,692.92	71.19
Grand Haven, Mich.	40													8,265.93	
Great Falls, Mont.		15								25	63			567.15	
Green Bay, Wis.	78	1													9.15
Gulford, Miss.	7									72	83			449.88	
Hartford, Conn.														101.00	11,933.62
Heating apparatus														8,405.68	
Honolulu, Hawaii.	577	16								306	762			12,125.29	21,203.16
Houquiam, Wash.	62									26	27			1,136.10	
Houghton, Mich.	25									19	20			541.35	
Hygienic Laboratory, Washington, D. C.															
Immigration service.															
Jacksonville, Fla.	338													50,588.89	
Juneau, Alaska.	139	1								241	284			73,785.49	
Ketchikan, Alaska.	93									101	230			2,116.62	1,327.77
Key West, Fla.	1,367	14								87	202			2,309.20	3,357.06
La Crosse, Wis.	216	5								1,175	1,512			1,195.79	
Little Rock, Ark.	20									180	336			9,623.36	1,199.28
Los Angeles, Cal.	519	9								18	52			1,413.43	
Louisville, Ky.	875	16								343	1,097			284.15	
Ludington, Mich.	22									659	954			8,297.43	1,482.96
Macias, Me.	66									13	19			14,760.65	
Manistee, Mich.	134									54	92			456.41	
Manitowoc, Wis.	123	2								109	157			822.00	281.57
Marblehead, Mass.										82	89			657.20	
Marquette, Mich.	119									109	115			993.24	40.59

TABLE II.—EXHIBIT OF THE OPERATIONS OF THE SERVICE DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

Port.	Total number of sea-men treated.	Patients in hospital July 1, 1904.	Admitted during the year.	Total number treated in hospital.	Discharged.	Died.	Remain-ing in hospital June 30, 1905.	Number of days re-lieved in hospital.	Number of sea-men fur-nished office re-lief.	Number of times office re-lief was fur-nished.	Number of persons ex-amin-ed physi-cally, in-cluding pilots.	Amount expended.	Tonnage tax collected.
Marshfield, Oreg.	67		21	21	18		3	283	46	96	15	\$78.25	
Memphis, Tenn.	1,962	16	593	609	574	24	11	7,863	1,353	1,701	12	14,754.37	
Menominee, Mich.	26	3	5	8	7		1	137	18	24		546.55	
Milwaukee, Wis.	1,322	10	339	369	357	5	7	6,151	953	1,343	112	9,380.37	
Miscellaneous.													
Mobile, Ala.	1,580	33	362	395	352	13	30	10,023	1,185	2,072	113	3,616.25	\$14,917.86
Nashville, Tenn.	92		7	7	6		1	76	85	160	14	442.35	
Natchez, Miss.	21		7	7	6	1		115	14	26		442.42	
Newark, N. J.													
New Bedford, Mass.	77	1	4	5	2	2	1	423	72	123	7	755.98	1,028.43
Newbern, N. C.	368		56	56	53		3	674	312	632	17	1,395.14	722.46
Newburyport, Mass.													
New Haven, Conn.	65	2	35	37	28	5	4	907	28	37	12	1,432.00	8.34
New London, Conn.	119	1	24	25	23	1	1	329	94	97	6	1,176.40	152.19
New Orleans, La.	2,200	33	508	541	504	15	22	12,667	1,659	2,536	68	23,289.51	52.11
Newport, Ark.	46	4	2	2	2			16	44	58		345.46	71,917.20
Newport, R. I.	46	4	24	28	26		2	582	18	23	27	1,191.92	
Newport, Vt.													
Newport News, Va.	351		57	57	53	1	3	635	294	322		598.26	157.52
New York, N. Y.	4,719	110	1,184	1,294	1,139	49	106	40,412	3,425	6,504	991	43,091.08	59.04
Nogales, Ariz.													7,410.03
Nome, Alaska.	54		15	15	11		3	308	39	76		4,286.09	309.01
Norfolk, Va.	2,271	11	338	349	334	9	6	4,495	1,922	2,731	225	10,693.72	5,024.40
Ogdensburg, N. Y.	83		9	9	9			275	74	136	4	723.60	896.82
Oswego, N. Y.	76		11	11	11			159	65	92	14	273.65	1,943.43
Paduacal, Ky.	159								159	486		418.06	
Pembina.													21.44
Pensacola, Fla.	140	3	119	122	116	1	5	1,952	18	25	6	2,969.45	18,437.79
Perrin Amboy, N. J.													2,061.21
Philadelphia, Pa.	1,612	16	410	426	393	12	21	7,682	1,186	1,722	274	15,596.11	69,486.12
Philippine Islands.													2,332.32
Pittsburg, Pa.	680	8	123	131	123	2	6	2,548	549	669	25	10,180.83	
Plattsburg, N. Y.													4,276.80
Plymouth, N. Y.													2.97
Ponce, P. R.	10		3	3	3			78	7	7		96.00	
Port Huron, Mich.	141	1	5	6	3			78	135	428	24	496.00	
Portland, Me.	844	27	107	284	239	9	16	11,072	560	1,029	25	16,392.22	14,319.84
Portland, Oreg.	598	6	237	113	105	6	2	2,478	488	975	31	4,933.17	
Portsmouth, N. H.	33	33	13	13	12	1		274	20	20	30	495.40	28.62
Port Tampa, Fla.	193	4	68	72	69		1	1,312	86	228	21	2,031.40	
Port Townsend, Wash.	564	35	366	433	404	7	22	13,076	121	189	9	17,401.45	25,283.19

Preventing spread of epidemic diseases	411	3	49	52	41	6	5	670	359	918	47	33,806.21	251.01
Providence, R. I.												2,083.23	
Purveying depot.												113,712.92	
Railroad transportation, freight charges, etc.												14,138.80	
Repairs and preservation public buildings	27											33,480.70	
Richmond, Va.			6	6	4		2	162	21	22		506.34	
Rochester, N. Y.	185		3	3	3			8	182	427	17	552.01	203.88
Sag Harbor, N. Y.	1								1	2		2.00	
Saginaw, Mich.	185		30	30	29		1	480	155	210	10	789.21	
Salaries, Surgeon-General's Office.												39,540.00	
Salem, Mass.	23								23	23		28.00	284.61
San Diego, Cal.	104		28	28	27	1		377	76	106	2	5,457.72	525.81
San Francisco, Cal.	79		12	12	12			231	66	101	18	42,260.63	29,487.66
San Juan, P. R.	3,049	103	1,049	1,152	1,006	48	98	41,010	1,897	4,221	238	1,992.30	11,211.18
St. Louis, Mo.	1,002	10	153	163	145	9	9	2,285	87	1,122	19	17,891.84	
St. Paul, Minn.	35		15	15	12	1	2	4,679	839	1,412	26	3,006.25	
Sault Ste. Marie, Mich.	313		138	141	132	5	4	2,185	172	219	24	9,370.56	
Savannah, Ga.	883	8	252	260	241	8	11	4,413	623	858	13	5,618.70	9,503.71
Seattle, Wash.	1,294	13	285	298	281	10	7	3,745	996	1,832	104	5,364.25	
Shreveport, La.	56		5	5	4		1	43	51	75	10	672.50	
Sitka, Alaska	17		6	6	6			59	11	16		772.25	
Solomons, Md.	24		6	6	6			121	18	19		632.77	
Stonington, Conn.	327		13	13	13			132	314	375		329.20	18.05
Sturgeon Bay, Wis.	21		2	2	2			14	19	23	43	2,074.20	
Superior, Wis.	327	3	76	79	76		3	1,852	248	317		1,078.00	
Tacoma, Wash.	102		24	24	23	1		400	78	116	3	2,451.90	29.61
Tampa, Fla.												7,383.03	
Tappahannock, Va., and subports.	211	1	175	176	169	6	2	1,588	237	580	14	1,632.86	8,330.94
Toledo, Ohio	350	3	110	113	109	2	1	1,605	52	73		9,852.07	
Traveling expenses.	128	1	75	76	70	2	4	1,003	175	198	5	2,123.75	192.60
Vicksburg, Miss.	288	11	72	83	75	1	7	3,058	124	240		34,522.05	98.91
Vineyard Haven, Mass.												502.75	
Waldoboro, Me.	159	3	32	35	32	2	1	1,045	125	152		2,412.67	1,098.90
Washington, D. C.												2,00	220.23
Washington, D. C., Bureau.	140		15	15	15			159	125	152	76		
Wheeling, N. C.	21		19	19	19			187	2	2			
Wheeling, W. Va.													
Wilmington, Del.													
Wilmington, N. C.	351	4	88	92	82	3	7	2,866	269	290	54	9,413.38	
Wiscasset, Me.	31								1	1		2.00	
Cape Charles Quarantine.	36		2	2	2			83	34	41	20		
Gulf Fear Quarantine.													
San Francisco Quarantine.	8		8	8	6	2		69					
San Francisco Quarantine.	9		6	6	6			149	3	3			
Savannah Quarantine.	2		1	1	1			4	1	2			
Santa Rosa Quarantine.	14		14	14	13		1	104					

TABLE III.—SUMMARY OF PHYSICAL EXAMINATIONS MADE BY OFFICERS OF THE PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE DURING THE FISCAL YEAR ENDED JUNE 30, 1905.

Summary of examinations and causes of rejection	Total.	Pilots.	Revenue-Cutter Service.	Life-Saving Service.	Coast and Geodetic Survey.	Light-House Service.	Merchant marine.	Foreign seamen.	Immigration Service.	Civil Service Commission.	Isthmian Canal Commission.	Philippine Civil Service.	Pilots, seamen, etc., Philippines.
<b>Summary of examinations:</b>													
Total number examined	5,000	1,278	823	1,338	92	5	122	27	19	320	78	5	893
Number passed	4,622	1,212	710	1,281	85	4	107	20	18	268	74	2	841
Number rejected	378	66	113	57	7	1	15	7	1	52	4	3	52
<b>Causes of rejection.</b>													
Abnormal temperature	2		2										
Albuminuria	1		2										
Aneurysm of the aorta	1												1
Ankle, injury to	1			1									
Asthma	1		1										
Bronchitis, catarrhal	8		4	2			2						
Cachexia	1		1										
Cataract	1								1				
Color blindness	49	25	10	4	2		3			1	1		3
Debility	1				2								
Defective hearing	5		3	1	2								
Defective teeth	3			3	3								
Defective vision	113	37	23	11			4			4			34
Deformity of right hand	1	1											
Dislocation of finger	1			1									
Enteric fever	1			1									
Failed to return for examination	3		3										
Flatfoot	2		2										
Fracture of radius	1							1					
Gastritis	1			1									
General incapacity	1		1										
Gonorrhoea	6		4		1								1
<b>Heart:</b>													
Abnormal action of	3		3										
Aortic insufficiency	5									3			2
Dilatation of	2									1			1
Mitral insufficiency	13		4	4						1			4
Mitral regurgitation	1											1	
Valvular disease of	3		2		1								
Valvular lesion of	4	1	3										
Heat exhaustion	1							1					
Hernia	5		4					1					
Hydrocele	1												
Influenza	1		1										
Injury to thumb	1		1										
Locomotor ataxia	2			1									
Loss of finger	1									1			
Loss of limb	1									1			
Malaria	1									1			
Malarial fever	1						1		1				
Nephrophtosis	1			1									
Neurasthenia	1							1					
Obesity	1										1		
Opacity, right eye	1		1										
Poor physique	1	1											
Prominent abdomen	1			1									
Psoas abscess	1									1			
Rapid pulse	2			2									
Refused examination	1		1										
Refused vaccination	1										1		
Rheumatism	5		1			1	3						
Scabies	4		1	2				1					
Soft chancre	2		2										
Spine, curvature of	1		1										
Sugar in urine	2				2								
Suppurative otitis media	1									1			
Syphilis	6		3					2	1				
Tinea versicolor	1		1										
<b>Tonsils:</b>													
Enlargement of	1		1										
Gumma of	1		1										
Hypertrophy of	1		1										
Inflammation of	2		2										
<b>Trachoma</b>	1												
Tricuspid insufficiency	1		1										
Tuberculosis	23	1	6	6						5			5
Ulcer of penis	1		1										
Under development	40		5	5						30			
Varicocele	11		7	3							1		
Varicose veins	12		2	5	1					2		2	

TABLE IV.—STATEMENT, BY DISTRICTS, OF THE NUMBER OF PATIENTS TREATED DURING THE YEAR ENDED JUNE 30, 1905.

District.	Total cases.	Pa- tients in hos- pital July 1, 1904.	Ad- mitted during the year.	Total num- ber cases treated in hos- pital.	Dis- charged.	Died.	Pa- tients in hos- pital June 30, 1905.	Number of days' relief in hospital.	Num- ber of seamen fur- nished office relief.	Num- ber of times office relief was fur- nished.
Total .....	57,013	1,037	13,624	14,661	13,106	522	1,033	431,623	42,352	67,954
Atlantic .....	21,099	338	4,843	5,181	4,659	173	349	142,102	15,918	24,494
West Indies .....	197	5	98	103	95	1	7	2,363	94	129
Gulf .....	6,549	97	1,429	1,526	1,406	45	75	34,938	5,023	7,713
Ohio .....	3,407	50	685	735	675	23	37	16,569	2,672	4,001
Mississippi .....	4,203	52	1,150	1,202	1,120	47	35	19,544	3,001	4,312
Great Lakes .....	13,696	117	2,815	2,932	2,683	76	173	67,980	10,764	16,994
Pacific .....	7,216	362	2,408	2,770	2,275	151	344	142,020	4,446	9,503
Pacific Islands .....	577	16	165	181	165	4	12	5,698	396	762
Quarantine stations .....	69	0	31	31	28	2	1	409	38	46

TABLE V.—RATIO OF PATIENTS TREATED IN HOSPITAL IN EACH DISTRICT.

District.	Per cent of patients treated in hospital.	District.	Per cent of patients treated in hospital.
Atlantic .....	24.56	Great Lakes .....	21.41
West Indies .....	52.28	Pacific .....	38.39
Gulf .....	23.35	Pacific Islands .....	31.37
Ohio .....	21.60	Quarantine stations .....	44.93
Mississippi .....	28.60		

TABLE VI.—AVERAGE DURATION OF TREATMENT IN HOSPITAL IN EACH DISTRICT.

District.	Average number of days' relief furnished to each patient.	District.	Average number of days' relief furnished to each patient.
Atlantic .....	27.62	Great Lakes .....	23.19
West Indies .....	22.94	Pacific .....	51.27
Gulf .....	22.83	Pacific Islands .....	31.48
Ohio .....	22.54	Quarantine stations .....	12.87
Mississippi .....	16.26		

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905.

## DISTRICT OF THE ATLANTIC.

DISEASE.	Number of cases.								
	Remaining in hos- pital from previ- ous year	Admitted during the year	Recovered.	Improved.	Not improved.	Died.	Remaining in hos- pital at close of year.	Treated at dispen- sary.	Total treated in hospital and dis- pensary.
<b>TOTAL CASES</b> .....	<b>888</b>	<b>4,848</b>	<b>2,791</b>	<b>1,705</b>	<b>168</b>	<b>178</b>	<b>849</b>	<b>15,918</b>	<b>21,099</b>
<b>General diseases</b> .....	<b>118</b>	<b>2,079</b>	<b>1,186</b>	<b>789</b>	<b>69</b>	<b>80</b>	<b>184</b>	<b>6,492</b>	<b>8,689</b>
Smallpox.....		1	1					1	2
Cowpox.....		1					1	111	112
Chicken pox.....		2	2					12	14
Measles.....	2	12	12	2				10	24
Rubella.....								3	3
Influenza.....		155	113	37	3	2		420	575
Mumps.....		10	8	2				18	28
Diphtheria.....		1	1						1
Simple continued fever.....		25	21	2	1			16	41
Enteric fever.....	17	124	101	9	1	11	19	11	152
Choleraic diarrhoea.....		1	1					3	4
Dysentery.....		38	23	9		1	5	49	87
Beri-beri.....		9	3	5			1	3	12
Malarial fever:									
Intermittent.....	6	298	265	25	1	6	7	678	982
Remittent.....	2	119	86	27	1	2	5	46	167
Erysipelas.....	1	23	20	1			3	4	28
Septicæmia.....		2	1			1			2
Tubercle.....	19	178	8	105	17	49	18	87	284
Leprosy.....		1			1				1
Syphilis:									
Primary.....	2	31	1	31	1			167	200
Secondary.....	16	267	7	247	8		21	1,380	1,663
Tertiary.....	5	5		9			1	27	37
Gonorrhœa.....	10	271	148	111	5		17	1,985	2,266
Anthrax.....								2	2
Diseases dependent on animal parasites:									
Tænia solium.....		4	3	1				6	10
Tænia mediocanellata.....		2	1	1				5	7
Ascaris lumbricoides.....								1	1
Oxyuris vermicularis.....								2	2
Pediculus capitis.....								4	4
Pediculus vestimenti.....								6	6
Phthirus inguinalis.....								7	7
Acanthia lectularia.....		1							1
Sarcoptes scabiei.....		18	15	3				71	89
Uncinariasis.....	1		1						1
Nematoda.....								1	1
Diseases dependent on vegetable parasites:									
Achorion Schönleini.....								1	1
Trichophyton tonsurans.....		3	1	2				16	19
Oidium albicans.....		1	1						1
Microsporon furfur.....								3	3
Tinea tonsurans.....								13	13
Effects of animal poisons:									
Decayed and poisonous food.....		1		1				3	4
Effects of vegetable poisons:									
Poison oak.....								1	1
Opium.....		2		1	1				2
Tobacco.....								4	4
Cannabis indica.....		1	1						1
Copalba.....		1	1					4	5
Rhus toxicodendron.....								2	2
Effects of inorganic poisons:									
Lead.....								2	2
Bromo-quinine.....								2	2
Effects of the presence of foreign bodies.....		1		1				12	13
Effects of mechanical injuries.....		2	2					4	6
Effects of cold.....								1	1
Effects of excessive exertion and strain.....		2	2						2
Starvation.....		1	1						1
Scurvy.....								1	1
Alcoholism.....	1	72	57	7	5	1	3	60	133
Delirium tremens.....		1	1						1
Rheumatic fever.....	10	76	54	25	2	2	3	22	108
Rheumatism.....	17	238	134	99	2	1	19	938	1,193





TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE ATLANTIC—Continued.

Disease.	Number of cases.							Total treated in hospital and dispensary.
	Remaining in hospital from previous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hospital at close of year.	
<b>DISEASES OF THE NERVOUS SYSTEM—Con.</b>								
Functional nervous disorders with other diseases of undetermined nature—Continued.								
Tremor.....								1
Spasm.....		5	4	1				5
Torticollis.....	1					1		1
Epilepsy.....	1	3		2	1		1	9
Vertigo.....		3	1	2				22
Headache.....	1	3	3	1				57
Anæsthesia.....								1
Neuralgia.....	1	14	10	4		1		221
Hysteria.....		1				1		1
Nervous weakness.....		13	6	6	1			69
Aphasia.....								1
<b>Mental diseases—</b>								
Mania.....	13	1		1			13	14
Melancholia.....	14	3	2		1	1	13	18
Dementia.....	8	1			1		8	9
Mental stupor.....	1					1		1
General paralysis of the insane.....	2	3			1	2	2	5
Delusional insanity.....	1	2	1		1		1	3
<b>DISEASES OF THE EYE</b>								
Conjunctivitis—	6	38	25	10	5		4	118
Acute.....		13	10	3				44
Chronic.....		1	1					6
Echymosis of conjunctiva.....								2
Keratitis.....	1	4	2	1			2	4
Ulceration of cornea.....	1	2	3					1
Opacity of cornea.....		1			1			1
Scleritis.....								1
Iritis.....	2	11	8	3	1	1	17	30
Choroiditis.....		1			1			1
Atrophy and degeneration of optic nerve or papilla.....								8
Retinitis.....								1
Hemorrhage of retina.....								2
Lenticular cataract.....	2	2		2	1		1	1
Capsular cataract.....								1
Amblyopia.....		2		1	1			2
Functional night blindness.....								1
Muscae volitantes.....								1
Ametropia.....								5
Myopia.....		1	1					1
Presbyopia.....								1
Squint.....								1
Chronic dacryo-cystitis.....								1
Obstruction of nasal duct.....								1
Blepharitis marginalis.....								5
Sty.....								7
Abscess of eyelid.....								3
Trichiasis.....								1
<b>DISEASES OF THE EAR</b>								
Inflammation of the external meatus—	2	21	9	9	3		2	112
Acute.....		1	1					14
Chronic.....								1
Abscess.....		1	1					4
Accumulation in external meatus of wax or epidermis.....		1	1					45
Inflammation of the middle ear—								46
Nonsuppurative.....		1		1				11
Suppurative.....	2	15	6	6	3		2	29
Within the mastoid cells.....		1		1				1
Perforation of membrana tympani.....								1
Obstruction of Eustachian tube.....								1
Tinnitus.....								3
Deafness.....		1		1				3



TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE ATLANTIC—Continued.

Disease.	Number of cases.								
	Remaining in hospital from previous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hospital at close of year.	Treated at dispensary.	Total treated in hospital and dispensary.
<b>DISEASES OF THE DIGESTIVE SYSTEM—Con.</b>									
Abscess of dental periosteum		8	7	1				25	33
Inflammation of gums and alveoli								10	10
Suppuration of alveoli		1	1					5	7
Ulceration of gums and alveoli								7	7
Caries of the alveoli								2	2
Necrosis lower jaw		1	1					1	1
Retention of deciduous teeth								1	1
Toothache								30	30
Inflammation of the tongue								4	4
Ulceration of the tongue		1		1				4	4
Sore throat		19	17	2				91	110
Ulceration of throat and palate		4	2	1	1			2	6
Inflammation of tonsils—									
Follicular		61	55	6				115	176
Suppuration		15	10	5				23	38
Hypertrophy of tonsils								6	6
Elongated uvula								4	4
Inflammation of salivary glands		3	2	1				1	4
Salivation								2	2
Inflammation of the pharynx—									
Catarrhal		5	5					93	98
Granular		3	2	1				12	15
Follicular								10	10
Ulceration of pharynx								1	1
Stricture of œsophagus								1	1
Inflammation of the stomach—									
Catarrhal, acute	5	46	31	14	1	1	4	96	147
Chronic								6	6
Ulceration of the stomach		2		1		1			2
Superficial		6	1	3	1		1	8	14
Hæmorrhage of the stomach		1	1					1	2
Dilatation of the stomach		2	1	1		1			3
Indigestion	1	19	12	7				520	539
Pyrosis								6	6
Vomiting								3	3
Gastralgia		3	1	2				4	7
Loss of appetite								10	10
Inflammation of the intestines—									
Enteritis	2	21	20	2	1			64	87
Typhlitis	3	19	16	1		2	3	9	31
Colitis		14	14					7	21
Catarrhal		9	9					35	44
Fæcal accumulation		6	6					15	21
Hernia	2	73	64	1	7	1	2	246	321
Intestinal dyspepsia		3	2	1				5	8
Constipation		2		2				241	243
Colic		3	3					21	24
Diarrhœa	3	33	28	7	1			218	254
Enteralgia		1	1					1	2
Inflammation of the rectum		1	1					2	3
Periproctitis, abscess	1	14	9	4			2	2	17
Ulceration of rectum		1	1					2	3
Fissure of the anus		3	2	1				7	10
Fistula in ano		10	6	3	1			11	21
Prolapse of the rectum		1	1						1
Piles—									
Internal	2	9	6	4	1			25	36
External		6	6					54	60
Mixed		7	2	5				9	16
Pruritus ani		1	1					10	11
Inflammation of the liver—									
Acute		2		1			1	4	6
Chronic	3	12		13	1	1		7	22
Hyperæmia of the liver		1		1				16	17
Degeneration of the liver, cancer		1				1			1
Hypertrophy of the liver								10	10
Jaundice		5	3	2				10	15
Inflammation of hepatic ducts and gall bladder		6	4	1	1			2	16

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE ATLANTIC—Continued.

Disease.	Number of cases.							
	Remaining in hos- pital from previ- ous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hos- pital at close of year.	Treated at dispen- sary.
<b>DISEASES OF THE DIGESTIVE SYSTEM—Con.</b>								
Calculi.....								1
Biliary colic.....		2		1				1
Inflammation of the peritonæum.....		2	1			1		3
Dropsy.....		2		1		1		2
<b>DISEASES OF THE LYMPHATIC SYSTEM.....</b>	10	192	136	46	6		14	232
Inflammation of lymph glands.....	5	150	110	36	2		7	175
Suppuration.....	4	41	26	9	3		7	53
Hypertrophy of lymph glands.....		1			1			1
Inflammation of lymphatics.....								3
Dilatation of lymphatics.....	1			1				1
<b>DISEASES OF THE URINARY SYSTEM.....</b>	14	91	21	60	7	13	4	231
Acute nephritis.....	2	8	2	3	1	4		4
Bright's disease.....	2	13		10	1	4		5
Chronic nephritis.....	4	18		18	1	2	1	22
Granular kidney.....	5	7		9	1	2		8
Abscess—								
Pyonephrosis.....		1		1				1
Pyelitis.....								3
Calculus in kidney.....		1					1	2
Calculus in ureter.....		1	1					1
Nephralgia.....								3
Hæmaturia.....		4	3	1				6
Hæmoglobinuria.....		1	1					1
Chyluria.....		1		1				1
Albuminuria.....		3	2	1				1
Lithuria.....								10
Oxaluria.....		1		1				1
Inflammation of bladder—								
Acute.....		8	4	1	1		2	54
Subacute.....		4	2	2				35
Chronic.....	1	13	2	10	1	1		37
Hernia of bladder.....								3
Calculus of bladder.....		1		1				5
Irritability of bladder.....								19
Retention of urine.....		2	2					6
Incontinence of urine.....		4	2	1	1			6
<b>DISEASES OF THE GENERATIVE SYSTEM.....</b>	28	368	235	135	12		14	1,008
Urethritis.....		1		1				38
Gleet.....								15
Ulcer of the urethra.....								1
Stricture of urethra—								
Organic.....	6	68	29	39	3		3	112
Spasmodic.....								5
Urethral fistula.....	1	1	1	1				1
Extravasation of urine.....		1		1				1
Calculus of urethra.....								1
Inflammation of the prostate—								
Acute.....		1		1				5
Chronic.....								1
Prostatarrhea.....								1
Hypertrophy of the prostate.....		6	1	4			1	19
Posthitis.....		1		1				7
Edema of prepuce.....								1
Phimosis.....		8	7	1				5
Paraphimosis.....		5	4		1			11
Inflammation of the glans, penis.....		2	1	1				21
Abscess of penis.....								2
Ulcer of penis.....	2	59	35	19	3		4	125
Soft chancre.....	16	112	84	41			3	468
Chordee.....								1
Inflammation of the scrotum.....		1	1					1
Abscess of the scrotum.....								1
Edema of the scrotum.....								1
Inflammation of the spermatic cord.....		2	2					5
Hydrocele of the spermatic cord.....		1		1				3
Varicocele.....	2	17	14	2	3			41



TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE ATLANTIC—Continued.

Disease.	Number of cases.							
	Remaining in hos- pital from previ- ous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hos- pital at close of year.	Total treated in hospital and dis- pensary.
<b>DISEASES OF THE SKIN—Continued.</b>								
Area.....								2
Chilblain.....		1		1				2
Ulcer.....	2	64	39	18			9	236
Boil.....		35	23	11			1	254
Carbuncle.....	1	10	6	5				29
Whitlow.....		5	2	2			1	36
Onychia.....		3	3					26
Tylosis.....								3
Corn.....		1	1					6
Cheloid.....		1		1				1
Wen.....		2	2					8
Milium.....								1
Bromidrosis.....								2
Pruritus.....								2
<b>Injuries.....</b>	<b>29</b>	<b>691</b>	<b>440</b>	<b>201</b>	<b>16</b>	<b>14</b>	<b>49</b>	<b>1,782</b>
<b>GENERAL INJURIES.....</b>	<b>1</b>	<b>15</b>	<b>10</b>	<b>4</b>		<b>2</b>		<b>68</b>
Effects of heat—								
Burns and scalds.....		2	2					49
Heat stroke.....		1	1					2
Effects of cold.....	1	3	3	1				2
Effects of chemical irritants and cor- rosives.....								2
Multiple injury.....		5	3	2				12
Suffocation.....		3		1		2		
Shock.....		1	1					1
<b>LOCAL INJURIES.....</b>	<b>28</b>	<b>676</b>	<b>430</b>	<b>197</b>	<b>16</b>	<b>12</b>	<b>49</b>	<b>1,714</b>
Contusion of nerves.....		2		1	1			
Stretching of nerves.....				1				1
Wound of artery.....		1						1
Rupture of veins.....								1
Contusion of inguinal glands.....			2					1
Strain of muscles.....		3		1				38
Rupture of muscles.....		1	1					3
Wound of muscles.....		1	1					
Rupture of tendons.....		2		1			1	
Wound of tendons.....		1		1				
Contusion of skin.....		1	1					2
Abrasion of skin.....		4	3	1				27
Wound of skin.....		3	3					7
Burn or scald of skin.....	5	33	23	4	1	2	8	91
Frostbite.....		9	6	2			1	26
Effects on the skin of irritants or cor- rosives.....		3	2	1				4
Abrasion of mucous membrane.....								1
Burn or scald of mucous membrane.....		2	2					
Effects on the mucous membrane of ir- ritants or corrosives.....		1	1					
Contusion of scalp.....								5
Wound of scalp.....		23	14	8	1			64
With injury to the aponeurosis.....		3	3					9
Fracture of the vault of skull.....		4	1			2	1	1
Fracture of the base of skull.....		2		1		1		
Wound of skull.....		1					1	
Contusion of brain.....	2	3	1	1			3	1
Contusion of face.....	1	5	5	1				12
Wound of face and mouth.....	1	11	9	3				53
Foreign bodies in the nose, antrum, or other cavities.....		1	1					
Fracture of facial bones.....		9	3	4		1	1	7
Dislocation of nasal cartilages.....								1
Contusion of eyelid.....								8
Wound of eyelid.....		3	3					2
Chemical injury to eyes.....		2		1			1	
Subconjunctival hæmorrhage.....								1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE ATLANTIC—Continued.

Disease.	Number of cases.							
	Remaining in hospital from previous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hospital at close of year.	Treated at dispensary.
<b>LOCAL INJURIES—Continued.</b>								
Wound of conjunctiva								2
Contusion of eyeball								3
Foreign bodies in the conjunctiva or cornea								38
Foreign bodies in the eyeball								3
Wound of eyeball		3	3					3
Contusion of pinna								2
Wound of pinna		2		2				4
Rupture of membrana tympani								1
Foreign body in external meatus								3
Contusion of neck								3
Wound of neck		1		1				1
Foreign body in the food passages								1
Compression of chest								1
Contusion of chest		27	19	7	1			75
Dislocation of costal cartilages								1
Fracture of ribs	1	28	16	10		1	2	19
Wound of parietes of chest		1	1					4
Gunshot wound		1				1		1
Contusion of back		15	12	3				23
Sprain of back		10	8	1			1	22
Wound of back		1	1					18
Fracture of spine	1	1	1			1		1
Dislocation of spine	1	1		1			1	1
Contusion of cord		3		3				2
Contusion of abdomen		3	2	1				5
Wound of parietes of abdomen		2	2	1				10
Contusion of the pelvis		3	1	2				
Contusion of the perineum, scrotum, or penis								2
Wound of the male urethra, perineum, scrotum, testis, or penis		1	1					4
Fracture or dislocation of pelvic bones		1	1					
Contusion of testicle								5
Contusion of upper extremities		30	19	10			1	120
Sprain of shoulder		2	2					15
Sprain of elbow								3
Sprain of wrist		9	5	3			1	37
Sprain of hand		1	1					5
Sprain of thumb								5
Sprain of fingers								10
Wound of upper extremities	3	88	62	22	2		5	487
Wound of joint, upper extremities								4
Injury to bursae								2
Fracture of clavicle		10	6	4				
Fracture of scapula		1	1					1
Fracture of humerus		11	6	2	2		1	2
Fracture of bones of forearm—								
Radius		4	2	2				9
Ulna		5	4	1				2
Both bones		11	6	2	2		1	3
Fracture of carpus, metacarpus, or phalanges		10	4	5	1			41
Dislocation of clavicle		1	1	1				2
Dislocation of scapula		1	1					1
Dislocation of humerus		20	13	6			1	5
Dislocation of radius and ulna		1			1			2
Dislocation of metacarpus		2	1	1				2
Dislocation of phalanges of fingers								2
Contusion of lower extremities	2	75	52	20	2		3	108
Sprain of hip								2
Sprain of knee		1		1				20
Sprain of ankle		42	25	16			1	52
Sprain of foot		1	1					6
Internal derangement of joints		2	1	1				1
Wound of lower extremities	2	43	29	14			2	131
Wound of joint, lower extremities								3



TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE ATLANTIC—Continued.

Disease.	Number of cases.							
	Remaining in hospital from previous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hospital at close of year.	Treated at dispensary.
<b>LOCAL INJURIES—Continued.</b>								
Fracture of femur.....	2	16	8	6	1	1	2	1
Fracture of cervix femoris.....	1	1	1					1
Fracture of patella.....		2		1			1	1
Fracture of tibia.....	3	7	8	1			1	1
Fracture of fibula.....	1	10	5	5			1	4
Fracture of tibia and fibula.....	1	19	8	5	1	1	5	5
Fracture of bones of foot—								
Astragalus.....		2		1			1	
Of the tarsus.....		2		1			1	
Of the metatarsus.....		1	1					
Of the phalanges of the toes.....		3	3					
Dislocation of femur.....		1		1				
Dislocation of fibula.....		1				1		
Dislocation of foot.....		1	1					
Dislocation of astragalo scaphoid joint								1
Malingerer.....	1	1	2					1

## DISTRICT OF THE WEST INDIES.

<b>TOTAL CASES.....</b>	<b>5</b>	<b>98</b>	<b>77</b>	<b>16</b>	<b>2</b>	<b>1</b>	<b>7</b>	<b>94</b>	<b>197</b>
<b>General Diseases.....</b>	<b>2</b>	<b>24</b>	<b>18</b>	<b>7</b>			<b>1</b>	<b>24</b>	<b>50</b>
Dengue.....		1	1						1
Influenza.....		1	1					1	2
Enteric fever.....		1	1						1
Malarial fever, intermittent.....		5	4				1	2	7
Syphilis—									
Primary.....		1	1					1	2
Secondary.....		4		4				1	5
Gonorrhea.....		4	2	2				10	14
Diseases dependent on animal parasites, <i>Uncinaria americana</i> .....	2	2	4						4
Alcoholism.....								1	1
Rheumatism.....		5	4	1				8	13
<b>Local Diseases.....</b>	<b>1</b>	<b>63</b>	<b>48</b>	<b>7</b>	<b>2</b>	<b>1</b>	<b>6</b>	<b>56</b>	<b>120</b>
<b>DISEASES OF THE NERVOUS SYSTEM.....</b>		<b>1</b>					<b>1</b>	<b>2</b>	<b>3</b>
Of the nerves—									
Inflammation, neuritis.....								1	1
Headache.....								1	1
Mental diseases, mania.....		1					1		1
<b>DISEASES OF THE EYE.....</b>		<b>2</b>		<b>2</b>				<b>1</b>	<b>3</b>
Conjunctivitis—									
Acute.....								1	1
Chronic.....		1		1					1
Iritis.....		1		1					1
<b>DISEASES OF THE CIRCULATORY SYSTEM.....</b>		<b>2</b>		<b>2</b>				<b>1</b>	<b>3</b>
Valvular disease—mitral.....		2		2				1	3
<b>DISEASES OF THE RESPIRATORY SYSTEM.....</b>		<b>4</b>	<b>3</b>			<b>1</b>		<b>5</b>	<b>9</b>
Inflammation of mucous membrane of larynx, catarrhal, acute.....								1	1
Bronchitis, catarrhal, acute.....		1	1					4	5
Pneumonia.....		2	1			1			2
Pleurisy, acute.....		1	1						1
<b>DISEASES OF THE DIGESTIVE SYSTEM.....</b>		<b>11</b>	<b>10</b>				<b>1</b>	<b>22</b>	<b>33</b>
Caries of the alveoli.....								2	2
Toothache.....								3	3
Inflammation of tonsils, follicular.....		3	3					2	5

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE WEST INDIES—Continued.

Disease.	Number of cases.								
	Remaining in hos- pital from previ- ous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hos- pital at close of year.	Treated at dispen- sary.	Total treated in hospital and dis- pensary.
<b>DISEASES OF THE DIGESTIVE SYSTEM—Continued.</b>									
Inflammation of the stomach, catarrhal		3	2				1		3
Indigestion		1	1					2	3
Gastralgia								1	1
Inflammation of the intestines, colitis								1	1
Fæcal accumulation		1	1						1
Hernia								1	1
Constipation								4	4
Colic		2	2					1	3
Diarrhoea								3	3
Periproctitis, abscess		1	1						1
Inflammation of the liver, acute								1	1
Accumulation of bile								1	1
<b>DISEASES OF THE LYMPHATIC SYSTEM</b>	1	23	18	3	1		2	3	27
Inflammation of lymph glands		14	11		1		2	3	17
Suppuration	1	8	7	2					9
Inflammation of lymphatics		1		1					1
<b>DISEASES OF THE GENERATIVE SYSTEM</b>		11	10				1	4	15
Soft chancre		8	8					2	10
Abscess of the scrotum		1	1						1
Inflammation of the testicle—									
Acute orchitis		2	1				1		2
Epididymitis								1	1
Spermatorrhœa								1	1
<b>DISEASES OF THE ORGANS OF LOCOMOTION, lumbago</b>		3	3					7	10
<b>DISEASES OF THE CONNECTIVE TISSUE, abscess</b>		1			1			2	3
<b>DISEASES OF THE SKIN</b>		5	4				1	9	14
Eczema								2	2
Pityriasis rubra		2	2						2
Dermatitis herpetiformis								2	2
Ulcer								2	2
Boil		2	2					1	3
Carbuncle								1	1
Whitlow		1					1	1	2
<b>Injuries</b>	2	11	11	1				14	27
<b>GENERAL INJURIES</b>	1	1	1	1				1	3
Effects of heat—									
Burns and scalds	1			1				1	2
Heat stroke		1	1						1
<b>LOCAL INJURIES</b>	1	10	10	1				13	24
Abrasion of skin								1	1
Wound of scalp		1	1					1	2
Wound of face and mouth		1	1						1
Contusion of chest								1	1
Fracture of ribs	1	1	2						2
Contusion of back		1		1					1
Wound of the male urethra, testis								1	1
Contusion of upper extremities		1	1					1	2
Wound of upper extremities		1	1					4	5
Fracture of bones of forearm, radius		1	1						1
Contusion of lower extremities								2	2
Sprain of ankle		1	1					1	2
Wound of lower extremities		2	2					1	3

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE GULF.

Disease.	Number of cases.									
	Remaining in hos- pital from previ- ous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hos- pital at close of year.	Treated at dispen- sary.	Total treated in hospital and dis- pensary.	
TOTAL CASES.....	97	1,429	899	478	34	45	75	5,023	6,549	
General Diseases.....	37	711	454	222	14	20	36	2,296	3,044	
Smallpox.....		9	9					1	10	
Cowpox.....								1	1	
Measles.....		3	2	1					3	
Dengue.....		31	30	1				6	37	
Influenza.....		30	26	3		1		116	146	
Mumps.....		3	2				1	5	8	
Simple continued fever.....		7	7						7	
Enteric fever.....	4	37	29	4		5	3		41	
Epidemic diarrhoea.....								1	1	
Dysentery.....		27	18	6			3	19	46	
Malarial fever—										
Intermittent.....	2	145	130	15			2	412	559	
Remittent.....	2	88	82	3			5	20	110	
Erysipelas.....	2	9	8	2			1	3	14	
Tubercle.....	3	58	1	39	10	10	1	33	94	
Syphilis—										
Primary.....		5		5				23	28	
Secondary.....	9	83		84	1		7	325	417	
Tertiary.....	1			1					1	
Gonorrhoea.....	1	49	25	18	1		6	496	536	
Diseases dependent on animal para- sites—										
Tænia solium.....		2	2						2	
Sarcoptes scabiei.....								15	15	
Diseases dependent on vegetable para- sites—										
Trichophyton tonsurans.....								6	6	
Tinea circinata.....								15	15	
Tinea barbae.....								3	3	
Effects of animal poisons, sting of spi- der.....								1	1	
Effects of vegetable poisons—										
Opium.....		2	1			1			2	
Tobacco.....								1	1	
Rhus toxicodendron.....								3	3	
Effects of inorganic poisons—										
Lead.....								2	2	
Coal gas.....		1	1						1	
Effects of the presence of foreign bodies.....								6	6	
Effects of mechanical injuries.....		3	1	2					3	
Effects of heat.....		1	1						1	
Alcoholism.....		15	12	2			1	14	29	
Rheumatic fever.....	2	14	11	4		1		8	24	
Rheumatism.....	8	63	43	20	2	1	5	627	698	
Gout.....								2	2	
Osteoarthritis.....		1		1				1	2	
Cyst.....								1	1	
Sebaceous.....		1	1					4	5	
Serous.....		1		1					1	
New growth, nonmalignant—										
Fibroma.....								1	1	
Myoma.....		1		1					1	
Papilloma.....		1	1					4	5	
New growth, malignant—										
Sarcoma.....		1				1			1	
Carcinoma.....		4	1	2	1			4	8	
Epithelioma.....	1			1				2	3	
Anæmia.....								2	2	
Purpura.....		1	1						1	
Diabetes mellitus.....								2	2	
Diabetes insipidus.....								1	1	
Debility.....	2	14	9	6	1			120	136	
Old age.....		1					1		1	
Local diseases.....	45	536	317	195	16	21	32	2,260	2,841	



TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE GULF—Continued.

Disease.	Number of cases.							
	Remaining in hos- pital from previ- ous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hos- pital at close of year.	Total treated in hospital and dis- pensary.
<b>DISEASES OF THE CIRCULATORY SYSTEM—Continued.</b>								
Disordered action of the heart.....								10
Abnormal slowness.....								1
Abnormal rapidity.....								3
Irregularity.....								6
Degeneration of arteries.....	2			1	1			4
Aneurysm of arteries.....		3		1	2			3
Phlebitis.....							2	2
Varix.....		7	3	3	1		4	11
Varicose aneurysm.....		1	1					1
<b>DISEASES OF THE RESPIRATORY SYSTEM...</b>	<b>1</b>	<b>51</b>	<b>21</b>	<b>24</b>	<b>2</b>	<b>4</b>	<b>1</b>	<b>364</b>
Hay fever.....		1						1
Inflammation of mucous membrane of larynx, catarrhal, acute.....								5
Bronchitis—								
Catarrhal, acute.....	1	22	11	10	1		1	312
Catarrhal, chronic.....		3	1	2				21
Dilatation of bronchi.....		1		1				1
Spasmodic asthma.....		7		6		1		11
Hæmorrhage of lung, hæmoptysis.....							2	2
Oedema of lungs.....		1				1		1
Pneumonia.....		7	6		1			5
Emphysema.....		1		1				1
Pleurisy—								
Acute.....		6	3	2		1		6
Chronic.....		2		2				1
Empyema.....		1		1				1
<b>DISEASES OF THE DIGESTIVE SYSTEM.....</b>	<b>7</b>	<b>134</b>	<b>96</b>	<b>32</b>	<b>4</b>	<b>3</b>	<b>6</b>	<b>741</b>
Inflammation of the mouth.....								1
Caries of dentine and cementum.....								3
Inflammation of dental periosteum.....								2
Abscess of dental periosteum.....		1	1					3
Inflammation of gums and alveoli.....								2
Suppuration of alveoli.....								2
Caries of the alveoli.....								5
Necrosis of alveoli.....								1
Toothache.....								14
Ulceration of the tongue.....		1		1				1
Sore throat.....		1	1					15
Inflammation of tonsils—								
Follicular.....		12	11				1	18
Suppuration.....		1	1					2
Inflammation of salivary glands.....								1
Salivation.....								1
Inflammation of the pharynx—								
Catarrhal.....		1		1				29
Follicular.....		1	1					7
Inflammation of the stomach, catarrhal.....	2	22	14	8	2			6
Ulceration of the stomach.....		1		1				1
Superficial.....		1		1				1
Hæmorrhage of the stomach.....		1	1					1
Indigestion.....	1	15	14		1		1	250
Gastralgia.....		1		1				1
Loss of appetite.....								1
Inflammation of the intestines—								
Enteritis.....		5	2	1	1	2		6
Typhlitis.....		9	9					4
Colitis.....		1		1				2
Catarrhal.....	1	7	5	1			2	1
Ulceration of the intestines.....		1		1				1
Fæcal accumulation.....		2	2					1
Hernia.....	1	5	3	3				77
Intestinal dyspepsia.....	1		1					13
Constipation.....		7	6	1				135
Colic.....		1	1					2

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE GULF—Continued.

Disease.	Number of cases.								
	Remaining in hos- pital from previ- ous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hos- pital at close of year.	Treated at dispen- sary.	Total treated in hospital and dis- pensary.
<b>DISEASES OF THE DIGESTIVE SYSTEM—Con.</b>									
Diarrhoea.....	1	8	8	1				77	86
Enteralgia.....		1	1						1
Inflammation of the rectum.....									1
Ulceration of rectum.....		2		2					3
Fissure of the anus.....		2	2						3
Fistula in ano.....		5	3	1			1	2	7
Piles—									
Internal.....		2	2					7	9
External.....		2	1	1				16	18
Mixed.....		1		1				7	8
Inflammation of the liver—									
Acute.....								1	1
Acute suppuration.....		1		1					1
Hyperæmia of the liver.....								14	14
Jaundice.....								4	4
Inflammation of hepatic ducts and gall bladder.....		6	2	3			1	2	8
Calculi.....		1		1				1	2
Accumulation of bile.....									1
Biliary colic.....		2	2						2
Inflammation of the peritonæum.....		2	1			1			2
Dropsy.....		1	1					1	2
<b>DISEASES OF THE LYMPHATIC SYSTEM.</b>									
Inflammation of lymph glands.....	5	46	40	9			2	52	103
Suppuration.....	4	41	36	8			1	48	98
Hypertrophy of lymph glands.....	1	4	4	1				2	7
Inflammation of lymphatics.....		1					1		1
								2	2
<b>DISEASES OF THE URINARY SYSTEM.</b>									
Acute nephritis.....	1	18	6	8		4	1	77	96
Bright's disease.....		3	2	1				5	7
Chronic nephritis.....	1	5		4		2		1	7
Granular kidney.....		3		1		2		9	12
Hæmaturia.....								4	4
Hæmoglobinuria.....								1	1
Inflammation of bladder—									
Acute.....		4	1	2			1	44	48
Subacute.....		1	1						1
Chronic.....								4	4
Calculus of bladder.....		1	1						2
Irritability of bladder.....		1	1					4	5
Retention of urine.....								1	1
Incontinence of urine.....								2	2
<b>DISEASES OF THE GENERATIVE SYSTEM.</b>									
Urethritis.....	12	124	76	48	4	1	7	278	414
Hæmorrhage of the urethra.....		1	1					1	2
Stricture of urethra—									
Organic.....	3	24	7	18	1	1		57	84
Traumatic.....		1	1						1
Urethral fistula.....		1					1		1
Recto-urethral fistula.....		1		1					1
Inflammation of the prostate, acute.....								1	1
Hypertrophy of the prostate.....		1		1				7	8
Prostitis.....								2	2
Phimosis.....	1	9	8		2			16	16
Inflammation of the glans.....								1	1
Ulcer of penis.....	1	34	25	6			4	62	97
Edema of penis.....		1	1						1
Soft chancre.....	7	34	20	19	1		1	93	134
Edema of the scrotum.....								2	2
Pruritus of the scrotum.....								2	2
Inflammation of the spermatic cord.....		1	1					2	3
Varicocele.....								5	5
Hydrocele of tunica vaginalis.....		6	4	2				6	12
Inflammation of the testicle—									
Acute orchitis.....		6	5				1	18	24
Epididymitis.....		4	3	1				3	7

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE GULF—Continued.

Disease.	Number of cases.							
	Remaining in hos- pital from previ- ous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hos- pital at close of year.	Total treated in hospital and dis- pensary.
<b>DISEASES OF THE GENERATIVE SYSTEM—</b>								
Continued.								
Spermatorrhœa.....							2	2
Impotence.....							5	5
Dysmenorrhœa.....							1	1
Menorrhagia.....							1	1
<b>DISEASES OF THE ORGANS OF LOCOMOTION.</b>	1	26	15	11			195	222
Inflammation of the bones, periostitis.							2	2
Caries.....							1	1
Necrosis.....		1		1			1	2
Inflammation of joints, acute synovitis.		2	1	1			5	7
Ankylosis.....		1		1				1
Dislocation of hip.....		1						1
Caries of the spine.....	1			1			1	1
Inflammation of muscles.....							1	1
Contracture of muscles.....							1	1
Myalgia.....		19	12	7			180	199
Inflammation of bursæ, acute.		1	1				3	4
Bunion.....							1	1
Bursal cyst.....		1	1					1
<b>DISEASES OF THE CONNECTIVE TISSUE</b>	2	26	17	10			60	88
Inflammation.....	2	10	9	3			15	27
Abscess.....		16	8	7			41	57
Hæmorrhage in connective tissue.							2	2
Edema.....							2	2
<b>DISEASES OF THE SKIN</b>	2	45	32	11			253	300
Urticaria.....		1	1				6	7
Prickly heat.....							4	4
Eczema.....		3		3			56	58
Impetigo.....		2	1				1	3
Pityriasis rubra.....							1	1
Psoriasis.....		1		1			6	7
Herpes.....							16	16
Zona.....		2	2				3	5
Pemphigus.....							3	3
Dermatitis herpetiformis.....							2	2
Acne.....							2	2
Sycosis.....		1	1				1	2
Seborrhœa.....							1	1
Chloasma.....							1	1
Alopecia.....							1	1
Chilblain.....							1	1
Ulcer.....	1	23	15	6			61	85
Boil.....		4	4				57	61
Carbuncle.....	1	2	3				8	11
Whitlow.....		3	3				6	9
Onychia.....							5	5
Corn.....		1	1				7	8
Cheloid.....		1	1				1	2
Wen.....							3	3
Lupus.....		1		1			1	2
<b>Injuries.....</b>	<b>16</b>	<b>182</b>	<b>128</b>	<b>56</b>	<b>2</b>	<b>4</b>	<b>7</b>	<b>467</b>
<b>GENERAL INJURIES.....</b>	<b>3</b>	<b>15</b>	<b>16</b>			<b>1</b>	<b>1</b>	<b>40</b>
Effects of heat—								
Burns and scalds.....		6	5				1	12
Heat stroke.....		8	8					4
Sunstroke.....	1					1		1
Effects of cold.....	1		1					2
Multiple injury.....	1		1					1
Exhaustion.....		1	1					5
<b>LOCAL INJURIES.....</b>	<b>12</b>	<b>167</b>	<b>112</b>	<b>56</b>	<b>2</b>	<b>3</b>	<b>6</b>	<b>624</b>
Contusion of nerves.....								1
Strain of muscles.....		1					1	18

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE GULF—Continued.

Disease.	Number of cases.							
	Remaining in hospital from previous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hospital at close of year.	Treated at dispensary.
<b>LOCAL INJURIES—Continued.</b>								
Rupture of muscles.....		1	1					1
Strain of tendons.....								1
Abrasion of skin.....		1	1					7
Burn or scald of skin.....		6	3	3				19
Frostbite.....								2
Burn or scald of mucous membrane		4	1	1			2	5
Wound of scalp.....		5	3	2				12
With injury to the aponeurosis								7
Fracture of the vault of skull.....								1
Wound of skull.....								1
Concussion of brain.....		2		1		1		2
Contusion of face.....		2	1	1				2
Wound of face and mouth.....		5	4	1				12
Wound of eyelid.....								1
Subconjunctival hæmorrhage.....								1
Wound of conjunctiva.....								1
Contusion of eyeball.....								1
Foreign bodies in the conjunctiva or cornea.....		1	1					5
Wound of eyeball.....								1
Foreign body in external meatus.....								1
Wound of neck.....		1	1					1
Contusion of chest.....		2	2					13
Fracture of ribs.....		6	3	3				12
Penetrating wound of pleura or lung.....								1
Gunshot wound.....	1	2	1	1		1		3
Contusion of back.....		8	5	3				18
Sprain of back.....		1		1				4
Wound of back.....		2	2	1				1
Contusion of cord.....		1	1					1
Contusion of abdomen.....		2	1	1				3
Wound of parietes of abdomen.....	1		1					5
Contusion of viscera.....		1	1					1
Contusion of the pelvis.....		1		1				2
Wound of the male urethra, perineum, scrotum, testis, or penis.....		1	3	3	1			4
Rupture of urethra.....			1	1				1
Fracture or dislocation of pelvic bones.....		1	1					1
Contusion of testicle.....								2
Contusion of upper extremities.....	1	9	6	4				20
Sprain of shoulder.....		1	1					6
Sprain of wrist.....		3	1	2				10
Sprain of thumb.....								2
Sprain of fingers.....								1
Wound of upper extremities.....	1	23	16	8				162
Fracture of clavicle.....		3	3					3
Fracture of bones of forearm, radius.....		1	1					2
Fracture of carpus, metacarpus, or phalanges.....		2	2					5
Dislocation of clavicle.....								1
Dislocation of scapula.....		1	1					1
Dislocation of humerus.....		2	1	1				2
Contusion of lower extremities.....	2	12	9	4			1	21
Sprain of hip.....								1
Sprain of knee.....		3		3				14
Sprain of ankle.....		11	6	3	1		1	12
Sprain of foot.....		1		1				1
Wound of lower extremities.....	2	27	21	6		1	1	46
Fracture of femur.....	2	2	3	1				
Fracture of patella.....		1		1				
Fracture of tibia.....		1	1					
Fracture of fibula.....	1	2		2	1			1
Fracture of the metatarsus.....								2
Fracture of the phalanges of the toes.....		1	1					1
Not diagnosed.....		1	1					1



TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE OHIO.

Disease.	Number of cases.								
	Remaining in hos- pital from previ- ous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hos- pital at close of year.	Treated at dispen- sary.	Total treated in hospital and dis- pensary.
<b>TOTAL CASES.....</b>	<b>50</b>	<b>685</b>	<b>867</b>	<b>288</b>	<b>20</b>	<b>23</b>	<b>87</b>	<b>2,672</b>	<b>3,407</b>
<b>General Diseases.....</b>	<b>19</b>	<b>287</b>	<b>145</b>	<b>126</b>	<b>11</b>	<b>9</b>	<b>15</b>	<b>978</b>	<b>1,279</b>
Smallpox.....		1			1				1
Influenza.....		24	19	3	1	1		77	101
Enteric fever.....	2	27	23	1		3	2		29
Choleraic diarrhoea.....		1	1						1
Dysentery.....	1	17	12	4			2	9	27
Malarial fever:									
Intermittent.....	1	37	31	4			3	136	174
Remittent.....		14	11	2			1	30	44
Erysipelas.....		2		2					2
Tubercle.....	6	41		31	9	5	2	36	83
Syphilis:									
Primary.....		8		8				11	19
Secondary.....	4	30		32			2	185	219
Tertiary.....								12	12
Gonorrhea.....		11	4	6			1	197	208
Diseases dependent on animal parasites:									
Tania solium.....		1	1					1	2
Sarcoptes scabiei.....								27	27
Diseases dependent on vegetable para- sites, tinea tonsurans.....								4	4
Effects of animal poisons, decayed and poisonous food.....		1	1						1
Effects of vegetable poisons, ivy.....								2	2
Effects of heat.....		2	2					1	3
Effects of cold.....		1	1						1
Alcoholism.....		10	5	5				11	21
Rheumatic fever.....	2	15	14	3				5	22
Rheumatism.....	3	40	20	22			1	184	227
Cyst, sebaceous.....								1	1
New growth, nonmalignant:									
Lipoma.....		1					1	1	2
Fibroma.....								1	1
Papilloma.....								7	7
Condyloma.....								1	1
Anæmia.....								4	4
Diabetes mellitus.....								2	2
Congenital malformations.....		1		1					1
Debility.....		2		2				28	30
<b>Local Diseases.....</b>	<b>23</b>	<b>277</b>	<b>155</b>	<b>108</b>	<b>11</b>	<b>13</b>	<b>13</b>	<b>1,428</b>	<b>1,728</b>
<b>DISEASES OF THE NERVOUS SYSTEM.....</b>	<b>4</b>	<b>13</b>	<b>4</b>	<b>8</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>41</b>	<b>58</b>
Of the nerves—									
Inflammation, multiple neuritis.....		1	1					1	2
Of the spinal cord and membranes, cord—									
Inflammation, of posterior col- umns.....	2	1		1			2	1	4
Of the brain and its membranes, brain—									
Hæmorrhage.....		1			1				1
Functional nervous disorders with other diseases of undetermined na- ture—									
Paralysis—									
Paraplegia.....		1		1				2	3
Hemiplegia.....	2	1		1		1	1		3
Incomplete paralysis.....								1	1
Paralysis from acute disease.....		1		1					1
Epilepsy.....		1		1					2
Headache.....		1	1					2	3
Hyperæsthesia.....								1	1
Neuralgia.....		4	2	2				23	27
Nervous weakness.....								9	9
Mental diseases, delusional insanity.....		1		1					1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE OHIO—Continued.

Disease.	Number of cases.								
	Remaining in hos- pital from previ- ous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hos- pital at close of year.	Treated at dispen- sary.	Total treated in hospital and dis- pensary.
<b>DISEASES OF THE EYE.</b>		5	2	3				21	26
Conjunctivitis, acute		2	1	1				18	20
Ulceration of cornea.		1	1						1
Glaucoma		1		1				1	2
Lenticular cataract		1		1				1	2
Sty.								1	1
<b>DISEASES OF THE EAR.</b>		2	1	1				17	19
Inflammation of the external meatus, acute.								6	6
Accumulation in external meatus of wax or epidermis.								3	3
Inflammation of the middle ear— Nonsuppurative.		1	1					6	7
Suppurative.		1		1				1	2
Deafness.								1	1
<b>DISEASES OF THE NOSE.</b>		1		1				31	32
Inflammation of soft parts.								23	23
Inflammation of frame work, necrosis.		1		1					1
Epistaxis.								1	1
Inflammation of the naso-pharynx.								7	7
<b>DISEASES OF THE CIRCULATORY SYSTEM.</b>	2	14	1	6	1	7	1	39	55
Valvular disease—									
Aortic		2		2				1	3
Mitral	1	5		2		4		8	14
Aortic and mitral		2				2		6	8
Degeneration of heart, fatty.								1	1
Hypertrophy of heart.	1					1			1
Dilatation of heart.		1		1				3	4
Disordered action of the heart—									
Abnormal rapidity.								1	1
Irregularity.								3	3
Degeneration of arteries.								4	4
Aneurysm of arteries.		2			1		1	1	3
Raynaud's disease.								1	1
Phlebitis.		1		1				2	3
Varix.		1	1					8	9
<b>DISEASES OF THE RESPIRATORY SYSTEM.</b>	2	37	26	10	1	2		224	263
Hay fever.								1	1
Inflammation of mucous membrane of larynx—									
Catarrhal, acute.	1	2	2	1				1	4
Tracheitis.								1	1
Bronchitis—									
Catarrhal, acute.		13	10	3				186	199
Catarrhal, chronic.								16	16
Spasmodic asthma.		3	1	2				5	8
Pneumonia.	1	11	8	2		2			12
Pleurisy—									
Acute.		6	5	1				12	18
Chronic.		2		1	1			2	4
<b>DISEASES OF THE DIGESTIVE SYSTEM.</b>	4	73	50	24	1		2	511	588
Inflammation of the lips.								3	3
Inflammation of the mouth.		1	1					2	3
Ulceration of the mouth.								1	1
Inflammation of the dental pulp.								1	1
Caries of dentine and cementum.								4	4
Inflammation of dental periosteum.		1	1						1
Abcesses of dental periosteum.								3	3
Inflammation of gums and alveoli.								2	2
Suppuration of alveoli.		1		1					1
Sore throat.								2	2
Ulceration of fauces.								1	1
Inflammation of tonsils—									
Follicular.	1	3	4					25	29
Suppuration.		1	1					3	4

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE OHIO—Continued.

Disease.	Number of cases.								
	Remaining in hos- pital from previ- ous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hos- pital at close of year.	Treated at dispen- sary.	Total treated in hospital and dis- pensary.
<b>DISEASES OF THE DIGESTIVE SYSTEM—Con.</b>									
Hypertrophy of tonsils								2	2
Salivation								2	2
Inflammation of the pharynx—									
Catarrhal		2	2					17	19
Granular								1	1
Ulceration of pharynx		1					1		1
Inflammation of the stomach, cat- arrhal		8	7	1				21	29
Indigestion		2	1	1				113	115
Gastralgia								2	2
Loss of appetite								5	5
Inflammation of the intestines—									
Enteritis		4	1	3				4	8
Colitis		1	1						1
Catarrhal	1	13	13	1				51	65
Hernia	1	4	1	4				51	56
Intestinal dyspepsia								3	3
Constipation		2	2					66	68
Colic		1		1				1	2
Diarrhoea	1	9	7	3				43	53
Periproctitis, abscess		4	1	3					4
Fistula in ano		2	1			1		2	4
Piles—									
Internal		2	2					9	11
External		6	1	5				21	27
Mixed		2	2						2
Inflammation of the liver—									
Acute		1	1					33	34
Chronic								1	1
Hyperæmia of the liver		1		1				15	16
Inflammation of hepatic ducts and gall bladder		1					1		1
Biliary colic								1	1
<b>DISEASES OF THE LYMPHATIC SYSTEM</b>		22	15	4	2		1	36	58
Inflammation of lymph glands		19	14	3	1		1	32	51
Suppuration		1	1					4	5
Obstruction of lymphatics		2		1	1				2
<b>DISEASES OF THE THYROID BODY, Goitre.</b>	1					1			1
<b>DISEASES OF THE URINARY SYSTEM</b>	3	14	2	10	2	2	1	61	78
Acute nephritis	1	3		3		1		9	13
Bright's disease								4	4
Chronic nephritis	1	3		2	1		1	3	7
Granular kidney	1	4		4	1			7	12
Abscess, pyonephrosis		1				1			1
Congestion of kidney								2	2
Lithuria								3	3
Inflammation of bladder—									
Acute		3	2	1				11	14
Subacute								5	5
Chronic								4	4
Incontinence of urine								13	13
<b>DISEASES OF THE GENERATIVE SYSTEM</b>	2	56	27	26	2		3	162	220
Urethritis								3	3
Gleet								1	1
Abscess of the urethra	1			1					1
Stricture of the urethra—									
Organic		11	1	9			1	33	44
Spasmodic								2	2
Urethral fistula		1			1				1
Inflammation of the prostate—									
Acute								2	2
Chronic								1	1
Hypertrophy of the prostate								2	2
Inflammation seminal vesicles								1	1
Phimosis		5	3	2				2	7

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE OHIO—Continued.

Disease.	Number of cases.							
	Remaining in hos- pital from previ- ous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hos- pital at close of year.	Treated at dispen- sary.
<b>DISEASES OF THE GENERATIVE SYSTEM—</b>								
Continued.								
Inflammation of the glans								9
Ulcer of penis	1	19	9	9			2	56
Soft chancre		9	6	3				27
Inflammation of the scrotum								2
Inflammation of the spermatic cord		1		1				2
Varicocele		1			1			3
Hydrocele of tunica vaginalis		2	2					3
Inflammation of the testicle—								
Acute orchitis		6	5	1				6
Epididymitis		1	1					1
Impotence								5
Amenorrhœa								1
Leucorrhœa								2
<b>DISEASES OF THE ORGANS OF LOCOMOTION.</b>	2	15	9	6	1		1	104
Inflammation of the bones, periostitis.		1		1				2
Necrosis	1	1	1	1				1
Inflammation of joints—								
Acute synovitis		1	1					1
Chronic synovitis		1		1				1
Suppuration		1					1	
Myalgia	1	9	6	3	1			96
Inflammation of tendons								1
Inflammation of sheaths of tendons								1
Inflammation of bursæ, acute								1
Bunion								1
Bursal cyst		1	1					1
<b>DISEASES OF THE CONNECTIVE TISSUE</b>		9	7	2				41
Inflammation		2	2					21
Abscess		7	5	2				20
<b>DISEASES OF THE SKIN</b>	3	16	11	7			1	140
Erythema								2
Urticaria								4
Prickly heat								1
Eczema	1	1	2					42
Pityriasis rubra								2
Psoriasis		1		1				2
Herpes								1
Zona		1	1					3
Acne								2
Alopecia								1
Chilblain		2	1	1				2
Ulcer	1	7	3	4			1	42
Cicatrices								22
Boil		2	2					4
Carbuncle		2	1	1				4
Whitlow								2
Onychia	1		1					2
Bromidrosis								1
Pruritus								3
<b>Injuries</b>	8	123	67	54		1	9	278
<b>GENERAL INJURIES.</b>		2	1	1				2
Effects of heat—								
Burns and scalds		1		1				2
Heat stroke		1	1					1
<b>LOCAL INJURIES.</b>	8	121	66	53		1	9	276
Strain of muscles		1	1					4
Contusion of skin								3
Abrasion of skin								2
Wound of skin								1
Burn or scald of skin		7	4	3				12
Frostbite		2	2					6
Contusion of scalp		1	1					1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE OHIO—Continued.

Disease.	Number of cases.								
	Remaining in hos- pital from previ- ous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hos- pital at close of year.	Treated at dispen- sary.	Total treated in hospital and dis- pensary.
LOCAL INJURIES—Continued.									
Wound of scalp . . . . .		1	1					16	17
With injury to the aponeurosis . . . . .								2	2
Wound of face and mouth . . . . .		3	1	2				6	9
Fracture of facial bones . . . . .		3		3				1	4
Injury to alveoli and teeth . . . . .		1		1					1
Contusion of eyelid . . . . .								1	1
Contusion of eyeball . . . . .		1	1						1
Foreign bodies in the conjunctiva or cornea . . . . .								5	5
Wound of eyeball . . . . .		1		1				1	2
Wound of pinna . . . . .		1	1						1
Contusion of chest . . . . .		4	3	1				7	11
Dislocation of costal cartilages . . . . .								1	1
Fracture of ribs . . . . .		1	1					8	9
Wound of parietes of chest . . . . .	1			1					1
Contusion of back . . . . .		3	2				1	10	13
Sprain of back . . . . .		4	2	1			1	7	11
Wound of back . . . . .								2	2
Contusion of abdomen . . . . .		1		1					1
Wound of parietes of abdomen . . . . .		1				1			1
Contusion of upper extremities . . . . .		4	1	2			1	22	26
Sprain of shoulder . . . . .								1	1
Sprain of wrist . . . . .								15	15
Sprain of hand . . . . .								2	2
Sprain of thumb . . . . .								2	2
Sprain of fingers . . . . .								3	3
Wound of upper extremities . . . . .	1	14	6	7			2	62	77
Fracture of clavicle . . . . .								2	2
Fracture of humerus . . . . .	1	2	3						3
Fracture of bones of forearm, both bones . . . . .		2		2					2
Fracture of carpus, metacarpus, or phalanges . . . . .								2	2
Injury to theca . . . . .								1	1
Contusion of lower extremities . . . . .		24	13	11				20	44
Sprain of hip . . . . .		1		1					1
Sprain of knee . . . . .								14	14
Sprain of ankle . . . . .	2	12	8	6				16	30
Sprain of foot . . . . .								1	1
Wound of lower extremities . . . . .	1	16	9	7			1	14	31
Wound of joint, lower extremities . . . . .								2	2
Fracture of femur . . . . .		2		1			1		2
Fracture of tibia . . . . .	1	5	3	1			2	2	8
Fracture of fibula . . . . .		1	1						1
Fracture of tibia and fibula . . . . .	1	1	1	1					2
Fracture of bones of foot, of the phalanges of the toes . . . . .		1	1						1

## DISTRICT OF THE MISSISSIPPI.

TOTAL CASES . . . . .	52	1,150	742	360	18	47	35	3,001	4,208
General Diseases . . . . .	24	654	438	193	8	23	17	1,447	2,125
Smallpox . . . . .		4	2		1	1		1	5
Cowpox . . . . .		1	1					12	13
Chicken pox . . . . .		1	1					1	2
Influenza . . . . .		16	13	3				82	98
Mumps . . . . .		1	1						1
Diphtheria . . . . .		1				1			1
Enteric fever . . . . .	1	19	18			2		1	21
Epidemic diarrhoea . . . . .		1	1					2	3
Dysentery . . . . .		15	13	1		1		11	26
Beriberi . . . . .		2		2					2
Malarial fever—									
Intermittent . . . . .	12	279	260	25	1	1	4	475	766
Remittent . . . . .		48	43	1		4		3	51



TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE MISSISSIPPI—Continued.

Disease.	Number of cases.							Total treated in hospital and dispensary.
	Remaining in hospital from previous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hospital at close of year.	
<b>DISEASES OF THE EYE.</b>		7	5	2				34
Conjunctivitis—								
Acute		1	1					19
Purulent		2	1	1				4
Keratitis		3	2	1				1
Opacity of cornea.								1
Iritis								2
Spasm of accommodation.								1
Chronic dacryo-cystitis.		1	1					1
Obstruction of nasal duct.								2
Blepharitis marginalis.								2
Sty								1
<b>DISEASES OF THE EAR.</b>		4	2	1			1	23
Inflammation of the external meatus—								
Acute								1
Abscess		1	1					2
Accumulation in external meatus of wax or epidermis.								4
Inflammation of the middle ear—								
Nonsuppurative.		1	1					8
Suppurative.		2		1			1	8
<b>DISEASES OF THE NOSE.</b>								18
Inflammation of soft parts.								16
Epistaxis								1
Inflammation of the naso-pharynx.								1
<b>DISEASES OF THE CIRCULATORY SYSTEM.</b>	5	24	4	17		7	1	55
Valvular disease—								
Aortic								3
Mitral	1	8		8				21
Aortic and mitral		4		2		2		4
Myocarditis		1				1		1
Degeneration of heart, fatty		2		1		1		4
Disordered action of the heart—								
Abnormal rapidity								2
Irregularity		2		2				2
Aneurysm of arteries	3	4	1	3		2	1	11
Phlebitis	1	1	2					3
Varix		2	1	1				3
<b>DISEASES OF THE RESPIRATORY SYSTEM.</b>	1	31	14	9	2	4	3	201
Inflammation of mucous membrane of larynx, catarrhal, acute.								1
Bronchitis—								
Catarrhal, acute.		3	1	2				153
Catarrhal, chronic.		4		4				3
Spasmodic asthma		3					1	6
Hæmoptysis								1
Oedema of lungs.		1				1		1
Pneumonia	1	13	9		2	3		16
Phthisis, tubercular.		1		1				3
Pleurisy, acute		5	4				1	9
Empyema		1					1	1
<b>DISEASES OF THE DIGESTIVE SYSTEM.</b>	3	82	61	18	2	2	2	530
Inflammation of the mouth.								2
Ulceration of the mouth.								1
Caries of dentine and cementum.								12
Caries of the alveoli.								1
Sore throat.								25
Ulceration of tonsils.								1
Inflammation of tonsils—								
Follicular		4	3	1				13
Suppuration.		2	2					1
Hypertrophy of tonsils.								1
Elongated uvula.								3
Inflammation of salivary glands.								1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE MISSISSIPPI—Continued.

Disease.	Number of cases.							
	Remaining in hospital from previous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hospital at close of year.	Treated at dispensary.
<b>DISEASES OF THE DIGESTIVE SYSTEM—Continued.</b>								
Salivation.....								3
Inflammation of the pharynx, catarrhal.....		1	1					5
Inflammation of the stomach, catarrhal.....		8	7	1				10
Indigestion.....	1	4	3	1	1			100
Gastralgia.....								1
Loss of appetite.....								1
Inflammation of the intestines—								
Enteritis.....		3	3					4
Typhlitis.....	1	5	3	2		1		2
Colitis.....		3	3					2
Catarrhal.....		1		1				2
Ulceration of the intestines.....								1
Hernia.....		10	6	1	1		2	51
Intussusception.....		1				1		
Intestinal dyspepsia.....								1
Constipation.....		1	1					87
Colic.....		3	3					4
Diarrhoea.....	1	19	18	2				64
Enteralgia.....		1	1					
Periproctitis, abscess.....		1	1					
Fistula in ano.....		3	1	2				2
Prolapse of the rectum.....		1		1				
Piles—								
Internal.....		4	3	1				1
External.....								27
Mixed.....		2		2				
Pruritus ani.....								2
Inflammation of the liver—								
Acute.....		1	1					4
Chronic.....		1		1				
Hypertrophy of the liver.....								2
Jaundice.....		1		1				3
Inflammation of hepatic ducts and gall bladder.....		1		1				3
Calculi.....								1
Biliary colic.....		1	1					1
<b>DISEASES OF THE LYMPHATIC SYSTEM....</b>	5	31	21	15				33
Congestion of spleen.....								1
Inflammation of lymph glands.....	2	18	12	8				28
Suppuration.....	3	13	9	7				4
<b>DISEASES OF THE THYROID BODY, goitre</b> .....								1
<b>DISEASES OF THE URINARY SYSTEM....</b>		31	5	21	1	3	1	48
Acute nephritis.....		6		5	1			6
Bright's disease.....								2
Chronic nephritis.....		10		7		2	1	9
Granular kidney.....		2		2				
Suppression of urine.....								3
Hæmaturia.....								1
Hæmoglobinuria.....		1				1		
Inflammation of bladder—								
Acute.....		5	2	3				26
Subacute.....		2	1	1				
Chronic.....		4	1	3				2
Calculus of bladder.....								1
Irritability of bladder.....		1	1					2
Incontinence of urine.....								2
<b>DISEASES OF THE GENERATIVE SYSTEM....</b>	2	75	45	26	4	1	1	153
Urethritis.....								6
Gleet.....								3
Abscess of the urethra.....								1
Stricture of urethra, organic.....		16	5	7	3		1	15
Urethral fistula.....								1



TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE MISSISSIPPI—Continued.

Disease.	Number of cases.							
	Remaining in hospital from previous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hospital at close of year.	Treated at dispensary.
<b>DISEASES OF THE GENERATIVE SYSTEM—Continued.</b>								
Inflammation of the prostate, chronic.		1				1		1
Hypertrophy of the prostate.		1	1					2
Prostatitis.		7	5	2				1
Phimosis.								7
Inflammation of the glans, penis.							5	5
Abscess of penis.		1	1					1
Ulcer of penis.		21	11	10			12	33
Soft chancre.	1	9	6	4			89	90
Edema of scrotum.		1		1				1
Pruritus of the scrotum.								1
Varicocele.							1	1
Hydrocele of tunica vaginalis.		2	1	1			3	3
Inflammation of the testicle—							2	4
Acute orchitis.	1	14	13	1	1		16	31
Epididymitis.		2	2				3	5
Impotence.							2	2
<b>DISEASES OF THE ORGANS OF LOCOMOTION.</b>	1	7	6	2			73	81
Inflammation of the bones—								
Osteitis.		2	2				2	4
Periostitis.							2	2
Necrosis.		3	2	1			4	7
Inflammation of joints—								
Acute synovitis.		1	1					1
Suppuration.		1		1				1
Psoas, lumbar, and other abscesses.	1		1					1
Myalgia.							56	56
Thecal abscess.							1	1
Bunion.							6	6
Pes planus.							2	2
<b>DISEASES OF THE CONNECTIVE TISSUE.</b>		20	15	5			23	43
Inflammation.		9	8	1			10	19
Abscess.		11	7	4			12	23
Gangrene.							1	1
<b>DISEASES OF THE SKIN.</b>	2	24	16	10			110	136
Urticaria.							6	6
Prickly heat.							2	2
Eczema.		1	1				28	29
Pityriasis rubra.		1		1				1
Psoriasis.							2	2
Sudamina.							1	1
Herpes.							4	4
Zona.		1	1					1
Chilblain.		1		1				1
Ulcer.	2	12	7	7			27	41
Boll.		2	2				13	15
Carbuncle.		1	1				4	5
Whitlow.		3	2	1			12	15
Onychia.		1	1					1
Tylosis.							1	1
Corn.							1	1
Wen.							1	1
Hyperidrosis.							1	1
Pruritus.							7	7
Mycosis fungoides.		1	1					1
<b>Injuries.</b>	6	146	106	86	2	4	5	295
<b>GENERAL INJURIES.</b>		2				1	1	6
Effects of heat, burns, and scalds.							2	2
Multiple injury.		1				1		1
Exhaustion.		1					1	3
<b>LOCAL INJURIES.</b>	6	144	105	36	2	3	4	291
Rupture of veins.							1	1
Strain of muscles.		1	1				20	23



TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE GREAT LAKES—Continued.

Disease.	Number of cases.								
	Remaining in hos- pital from previ- ous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hos- pital at close of year.	Treated at dispen- sary.	Total treated in hospital and dis- pensary.
Measles.....	1	9	8	2				2	12
Influenza.....		99	92	7				235	334
Mumps.....		1	1					1	2
Diphtheria.....	1		1					1	2
Cerebrospinal fever.....		6				1			1
Simple continued fever.....		6	6					10	16
Enteric fever.....	9	128	90	16	1	4	26	20	157
Choleraic diarrhoea.....	1	9	10					13	23
Epidemic diarrhoea.....		1	1					16	17
Dysentery.....		17	9	8				14	31
Malarial fever:									
Intermittent.....		28	20	4			4	97	125
Remittent.....	1	1	1	1					2
Erysipelas.....		13	9	3			1	4	17
Septicæmia.....		5	3	1	1			4	9
Tetanus.....		1	1					1	1
Tubercle.....	5	70	1	43	6	20	5	60	135
Syphilis:									
Primary.....		10	3	7				106	118
Secondary.....		80	10	67	1	2	4	780	864
Tertiary.....	4	8	7	7			1	43	51
Gonorrhœa.....	4	124	73	43	1	1	10	1,390	1,518
Diseases dependent on animal parasites:									
Tænia solium.....		3	2	1				3	6
Tænia mediocanellata.....		2	2					1	3
Ascaris lumbricoides.....								2	2
Bothriocephalus latus.....		1	1						1
Pediculus vestimenti.....								5	5
Phthirus inguinalis.....								3	3
Sarcoptes scabiei.....		9	8	1				224	233
Acanthia lectularia.....		1	1						1
Diseases dependent on vegetable para- sites:									
Trichophyton tonsurans.....								25	25
Tinea tonsurans.....		2	1	1					2
Microsporon furfur.....								8	8
Streptococcus pyogenes.....		1	1					4	5
Effects of vegetable poisons:									
Opium.....								2	2
Tobacco.....								9	9
Rhus toxicodendron.....		1	1					1	2
Ivy.....								1	1
Effects of inorganic poisons:									
Mercury.....		1					1		1
Carbolic acid.....		1		1					1
Ammonia.....		1	1						1
Effects of the presence of foreign bodies.....								2	2
Effects of mechanical injuries.....		2	1	1				3	5
Effects of chemical agents.....		1	1					2	3
Effects of excessive exertions and strain.....		1	1					1	2
Scurvy.....								1	1
Alcoholism.....	1	87	69	13	3	1	2	76	164
Delirium tremens.....		4	4						4
Rheumatic fever.....		27	15	10			2	4	31
Rheumatism.....	7	188	128	59			8	785	980
Osteoarthritis.....								1	1
Cyst:									
Chalazion.....		1	1						1
Sebaceous.....		2	2					8	10
Bursal.....		1		1				2	3
Dermoid.....		2	1		1			1	3
New growth, nonmalignant:									
Lipoma.....		3	1	1	1			4	7
Fibroma.....		2	1	1				8	10
Chondroma.....								1	1
Osteoma.....		2	1				1		2
Myxoma.....								2	2
Neuroma.....		1			1				1
Condyloma.....								1	1
Lymphangioma.....		1	1						1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE GREAT LAKES—Continued.

Disease.	Number of cases.							
	Remaining in hos- pital from previ- ous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hos- pital at close of year.	Total treated in hospital and dis- pensary.
New growth, nonmalignant—Continued.								
Papilloma.....		3	2	1				40
Lingual.....							37	1
Pterygium.....		1	1				1	1
New growth, malignant:								
Sarcoma.....		4	3	1			1	5
Carcinoma.....		2				2		2
Squamous carcinoma.....		1	1					1
Anæmia.....		1	1				6	7
Purpura.....		1	1					1
Hodgkin's disease.....							1	1
Hæmophilia.....		1		1				1
Diabetes mellitus.....	1	3	1		1	2	3	7
Diabetes insipidus.....		1		1				1
Congenital malformations.....		4	2	1	1			4
Debility.....		5	4	1			178	183
Old age.....		1			1		2	3
Local Diseases.....	44	1,151	701	362	25	31	76	5,176
DISEASES OF THE NERVOUS SYSTEM.....	12	49	13	20	7	7	14	271
Of the nerves—								
Inflammation—								
Neuritis.....		2	1			1	2	4
Multiple neuritis.....		2	1			1		2
Of the spinal cord and membranes, cord—								
Degeneration—								
Of anterior cornua.....		1		1				1
Of posterior columns.....	6	5		1	2	1	7	31
Brain—								
Abscess.....		1				1		1
Hæmorrhage.....	1	2		1		1	1	3
Hyperæmia.....		1		1				1
Functional nervous disorders with other diseases of undetermined na- ture—								
Apoplexy.....		1				1		1
Paralysis—								
Hemiplegia.....	2	5		2	1	1	3	8
Local paralysis.....	1	4	1	1	2		1	8
Incomplete paralysis.....		1					1	1
Paralysis agitans.....		2		1	1			3
Spasm.....		1	1				2	3
Facial spasm.....							1	1
Epilepsy.....	1	5		6			6	12
Vertigo.....		2	2				8	10
Headache.....		1	1				29	30
Neuralgia.....		8	5	3			121	129
Hysteria.....							1	1
Aphasia.....		1		1			2	3
Hiccough.....							1	1
Nervous weakness.....		1					1	72
Mental diseases—								
Mania.....		1	1					1
Melancholia.....	1	1		1	1		1	3
Mental stupor.....		1		1				1
DISEASES OF THE EYE.....		21	4	11	3		3	95
Conjunctivitis.....		1		1				1
Acute.....		7	2	4			1	73
Purulent.....		1					1	1
Ecthymosis of conjunctiva.....							1	1
Keratitis.....		1		1				1
Ulceration of cornea.....		1	1					1
Opacity of cornea.....		2		1	1		1	3
Staphylocoma of sclerotic.....		1		1				1
Iritis.....		3	1	2			1	4
Choroiditis.....							4	4



TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE GREAT LAKES—Continued.

Disease.	Number of cases.							Total treated in hospital and dispensary.
	Remaining in hospital from previous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hospital at close of year.	
<b>DISEASES OF THE RESPIRATORY SYSTEM—Continued.</b>								
Hæmorrhage of lung, hæmoptysis.....							2	2
Pneumonia.....	1	33	30			2	2	37
Broncho-pneumonia.....		1				1		1
Chronic interstitial inflammation.....				1				1
Phthisis—								
Acute.....		2		2			4	6
Tubercular.....		3		2	1		4	7
Pleurisy—								
Acute.....		20	19	1			32	52
Chronic.....		2		2			6	8
Empyema.....	2	1	1	1		1		3
<b>DISEASES OF THE DIGESTIVE SYSTEM.....</b>								
Ulceration of the lips.....	10	350	265	78	4	3	10	1,856
Inflammation of the mouth.....							3	3
Ulceration of the mouth.....							10	10
Inflammation of the dental pulp.....							17	17
Caries of dentine and cementum.....							1	1
Necrosis of cementum.....							1	1
Inflammation of dental periosteum.....							5	5
Abcess of dental periosteum.....							2	2
Inflammation of gums and alveoli.....		3	3				3	6
Suppuration of alveoli.....							3	3
Ulceration of alveoli.....		1	1				2	3
Ulceration of gums and alveoli.....							8	8
Toothache.....							8	8
Inflammation of the tongue.....							8	8
Ulceration of the tongue.....							1	1
Sore throat.....		2	2				26	28
Inflammation of tonsils—								
Follicular.....		34	30	4			117	151
Suppuration.....		7	4	2	1		6	13
Inflammation of salivary glands.....		1		1			4	5
Inflammation of the pharynx.....		1	1				1	1
Catarrhal.....		2	2				60	62
Granular.....							1	1
Follicular.....		3	2				6	9
Ulceration of pharynx.....		1		1			1	2
Inflammation of the stomach—								
Catarrhal, acute.....		58	39	16			3	169
Catarrhal, chronic.....							20	20
Ulceration of the stomach.....		1		1			1	2
Superficial.....		4	1	2		1	6	10
Hæmorrhage of the stomach.....							1	1
Dilatation of the stomach.....		2		2				2
Indigestion.....	2	28	23	6			1	430
Pyrosis.....							27	27
Gastralgia.....							1	1
Loss of appetite.....							5	5
Excessive appetite.....							1	1
Inflammation of the intestines—								
Enteritis.....	3	17	15	5			76	96
Typhlitis.....	1	22	17	5		1	16	39
Colitis.....		9	5	4			4	3
Catarrhal.....		4	4				1	5
Fistula of the intestines.....		1		1			1	2
Fæcal accumulation.....		2	2				2	4
Hernia.....		38	30	5	2		1	100
Obstruction of the intestines.....		1		1				138
Intestinal dyspepsia.....							22	22
Constipation.....		7	7				312	319
Colic.....		7	4	3			9	16
Diarrhoea.....	1	21	20	2			128	150
Inflammation of the rectum.....		1	1				4	5
Periproctitis.....							5	5
Abscess.....	2	8	6	3			4	14
Ulceration of rectum.....		1		1			1	1
Fissure of the anus.....							2	2
Fistula in ano.....		8	7	1			14	22

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE GREAT LAKES—Continued.

Disease.	Number of cases.							
	Remaining in hos- pital from previ- ous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hos- pital at close of year.	Total treated in hospital and dis- pensary.
<b>DISEASES OF THE DIGESTIVE SYSTEM—Con.</b>								
Prolapse of the rectum.....		1	1					1
Piles—								
Internal.....		11	8		1		2	31
External.....		10	9	1				47
Mixed.....		6	3	2			1	17
Pruritus ani.....								5
Inflammation of the liver—								
Acute.....								3
Chronic.....	1	4		4		1		7
Hyperæmia of the liver.....		4	3	1				88
Hypertrophy of the liver.....		2	1	1				2
Jaundice.....		5	4	1				20
Inflammation of hepatic ducts and gall bladder.....		7	5	2				9
Calculi.....		1	1					1
Accumulation of bile.....								13
Inflammation of pancreas.....								1
Inflammation of the peritonæum.....		1	1					1
Dropsy.....		2	2					2
<b>DISEASES OF THE LYMPHATIC SYSTEM.....</b>	1	45	26	18			2	126
Inflammation of lymph glands.....	1	34	16	17			2	100
Suppuration.....		6	6					12
Hypertrophy of lymph glands.....		1		1				2
Inflammation of lymphatics.....		4	4					1
<b>DISEASES OF THE THYROID BODY, goitre.....</b>		2			1		1	5
<b>DISEASES OF THE URINARY SYSTEM.....</b>	3	28	4	17	1	3	6	153
Acute nephritis.....		2		1			1	28
Bright's disease.....		3		2			1	7
Chronic nephritis.....	1	7		5		1	2	8
Granular kidney.....	1	4		3		1	1	6
Calculus in kidney.....								1
Calculus in ureter.....		1		1				1
Hæmaturia.....		1	1					1
Lithuria.....								5
Inflammation of bladder—								
Acute.....		6	2	3	1			25
Subacute.....								10
Chronic.....		2				1	1	15
Irritability of bladder.....								6
Incontinence of urine.....	1	2	1	2				10
<b>DISEASES OF THE GENERATIVE SYSTEM.....</b>	2	180	95	55	5		7	530
Urethritis.....								16
Gleet.....								7
Ulcer of the urethra.....								2
Stricture of urethra—								
Organic.....		34	14	16	2		2	71
Traumatic.....		1	1					1
Urethral fistula.....		1	1					1
Inflammation of the prostate—								
Acute.....		2		2				1
Chronic.....								4
Prostatarrhoea.....								2
Hypertrophy of the prostate.....		2		2				13
Posthitis.....								4
Phimosis.....		19	14	5				11
Paraphimosis.....		3	2		1			5
Inflammation of the glans, penis.....		1		1				3
Ulcer of penis.....	1	7	3	3	1		1	21
Soft chancre.....	1	25	17	7			2	270
Inflammation of the spermatic cord.....								2
Hydrocele of the spermatic cord.....								5
Varicocele.....		11	10		1			22
Hydrocele of tunica vaginalis.....		8	6	2				12

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE GREAT LAKES—Continued.

Disease.	Number of cases.								
	Remaining in hos- pital from previ- ous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hos- pital at close of year.	Treated at dispen- sary.	Total treated in hospital and dis- pensary.
<b>DISEASES OF THE GENERATIVE SYSTEM—Continued.</b>									
Inflammation of the testicle—									
Acute orchitis.....		20	15	4			1	22	42
Chronic orchitis.....								2	2
Epididymitis.....		19	8	11				12	31
Atrophy of testicle.....								1	1
Spermatorrhoea.....								6	6
Distention of fallopian tube.....		1	1						1
Inflammation of the uterus.....		3	2	1				2	5
Uterine hæmorrhage.....								1	1
Displacements and distortions of the uterus.....		1					1		1
Laceration of cervix uteri.....								7	7
Amenorrhoea.....								1	1
Dysmenorrhoea.....								3	3
Menorrhagia.....								1	1
Abortion.....		2	1	1					2
<b>DISEASES OF THE ORGANS OF LOCOMOTION.</b>									
Inflammation of the bones—	1	70	37	25			9	315	386
Osteitis.....	1	2	3					2	5
Periostitis.....		4	3	1				5	9
Abscess alveolar process bone.....		1	1						1
Caries.....		1					1	1	2
Necrosis.....		7	5				2	2	9
Inflammation of joints—									
Acute synovitis.....		9	4	4			1	8	17
Chronic synovitis.....		3	1	2					3
Ankylosis.....		5	1	3					6
Posterior curvature of spine.....		1	1				1	1	1
Lateral curvature of spine.....		1							1
Inflammation of muscles.....		1		1					1
Suppuration of muscles.....		1	1					1	2
Myalgia.....		26	13	9			4	264	290
Inflammation of tendons.....								4	4
Adhesion of tendons.....		2		2					2
Inflammation of sheaths of tendons.....		1	1					9	10
Thecal abscess.....		4	2	2				2	6
Ganglion.....								1	1
Inflammation of bursæ, acute.....		1	1					6	7
Bunion.....								1	1
Bursal cyst.....								2	2
Bursal tumor.....								1	1
Flat foot.....								4	4
Hallux valgus.....		1		1					1
<b>DISEASES OF THE CONNECTIVE TISSUE.....</b>									
Inflammation.....	2	67	53	15			1	118	187
Abscess.....	1	22	19	3			1	46	69
	1	45	34	12				72	118
<b>DISEASES OF THE SKIN.....</b>									
Erythema.....	5	79	44	36		2	2	586	670
Urticaria.....								8	8
Prickly heat.....								20	20
Eczema.....		11	4	6			1	1	1
Impetigo.....		1		1				159	170
Prurigo.....								4	5
Psoriasis.....								2	2
Herpes.....		3		3				17	20
Zona.....								21	21
Pemphigus.....								9	9
Dermatitis herpetiformis.....		1		1				2	2
Acne.....								1	2
Sycosis.....		1	1					37	37
Ichthyosis.....								15	16
Leucodermia.....								1	1
Alopecia.....								1	1
Area.....								1	1
Ulcer.....	4	36	18	19		2	1	2	2
								136	176



TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE GREAT LAKES—Continued.

Disease.	Number of cases.							
	Remaining in hospital from previous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hospital at close of year.	Treated at dispensary.
<b>DISEASES OF THE SKIN—Continued.</b>								
Boil.....		13	10	3				84
Carbuncle.....	1	6	7					15
Whitlow.....		3	2	1				25
Onychia.....		2	1	1				8
Corn.....								5
Wen.....		1	1					1
Hyperidrosis.....								5
Pruritus.....								2
Lupus.....		1		1				1
Rhinoscleroma.....								4
<b>Injuries.....</b>	<b>23</b>	<b>666</b>	<b>490</b>	<b>171</b>	<b>2</b>	<b>10</b>	<b>31</b>	<b>1,314</b>
<b>GENERAL INJURIES.....</b>	<b>2</b>	<b>60</b>	<b>50</b>	<b>10</b>		<b>1</b>	<b>1</b>	<b>31</b>
Effects of heat—								
Burns and scalds.....	2	27	23	5			1	24
Heat stroke.....		14	14					3
Sunstroke.....		1	1					1
Effects of cold.....								1
Effects of chemical irritants and corrosives.....		1	1					1
Multiple injury.....		16	10	5		1		2
Exhaustion.....								1
Shock.....		1	1					1
<b>LOCAL INJURIES.....</b>	<b>36</b>	<b>606</b>	<b>440</b>	<b>161</b>	<b>2</b>	<b>9</b>	<b>30</b>	<b>1,283</b>
Rupture median nerve.....		1		1				5
Contusion of muscles.....		4	1	3				6
Strain of muscles.....		3	1	2				6
Strain of tendons.....								6
Rupture of tendons.....								1
Contusion of skin.....		1		1				14
Abrasion of skin.....		1	1					27
Wound of skin.....		1	1					9
Burn or scald of skin.....	1	21	15	6			1	61
Frostbite.....		5	5					11
Effects on the skin of irritants or corrosives.....								1
Wound of mucous membrane.....								2
Burn or scald of mucous membrane.....								1
Effects on the mucous membrane of irritants or corrosives.....								1
Contusion of scalp.....	1	3	4					6
Wound of scalp.....		25	20	5				38
With injury to the aponeurosis.....		2	1	1				8
With injury to the pericranium.....		1	1					1
With injury to the bone.....								2
Contusion of skull.....		1	1					4
Fracture of the vault of skull.....		5	3	1		1		5
Fracture of the base of skull.....		3				3		3
Wound of skull.....		1	1					1
Concussion of brain.....	1	3	4					4
Laceration brain cerebellum.....		1	1					1
Laceration brain without fracture of skull.....								1
Contusion of face.....		13	10	3				35
Wound of face and mouth.....		16	11	5				40
Foreign bodies in the nose, antrum, or other cavities.....								2
Fracture of facial bones.....		10	6	3			1	3
Injury to alveoli and teeth.....								2
Contusion of eyelid.....		3	1	1			1	1
Wound of eyelid.....								2
Wound of conjunctiva.....	1	1	2					3
Contusion of eyeball.....		3	3					3
Foreign bodies in the conjunctiva or cornea.....								16
Foreign bodies in the eyeball.....		3	2	1				3
Wound of eyeball.....		1	1					1
Wound of pinna.....								2

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE GREAT LAKES—Continued.

Disease.	Number of cases.								
	Remaining in hos- pital from previ- ous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hos- pital at close of year.	Treated at dispen- sary.	Total treated in hospital and dis- pensary.
LOCAL INJURIES—Continued.									
Foreign body in external meatus		1						9	9
Contusion of neck		1		1				3	4
Wound of neck		3	2	1				2	5
Foreign body in the food passages		1		1					1
Contusion of chest		14	9	4			1	33	47
Dislocation of costal cartilages								1	1
Fracture of ribs	2	26	20	7			1	15	43
Wound of parietes of chest								1	1
Gunshot wound		1	1					2	3
Contusion of back	1	30	22	5	1		3	16	47
Sprain of back	3	17	13	6				26	46
Wound of back	3	2	2					1	3
Fracture of spine, with displacement		1				1			1
Concussion of cord		1	1						1
Compression of spinal cord without fracture		1					1		1
Contusion of abdomen		3	2			1		5	8
Wound of parietes of abdomen								10	10
Contusion of the pelvis								1	1
Contusion of the perinæum, scrotum, or penis		2	2						2
Wound of the male urethra, perinæum, scrotum, testis, or penis	1	1	1	1				15	17
Fracture or dislocation of pelvic bones		1	1					1	2
Contusion of testicle								1	1
Contusion of upper extremities	1	27	14	13	1			114	142
Sprain of shoulder		3	1	2				14	17
Sprain of elbow		1	1					4	5
Sprain of wrist	1	7	5	3				38	46
Sprain of hand								5	5
Sprain of thumb		1	1					3	4
Sprain of fingers								1	1
Wound of upper extremities	5	59	42	20			2	343	407
Wound of joint, upper extremities		2	1	1				2	4
Fracture of clavicle		8	2	4			2		8
Fracture of scapula								2	2
Fracture of humerus		6	4	1			1	3	9
Fracture of bones of forearm—									
Radius		6	2	2			2	2	8
Ulna		2					2	3	5
Both bones	2	2	3				1	1	5
Fracture of carpus, metacarpus, or phalanges	2	9	7	3		1		16	27
Dislocation of clavicle								1	1
Dislocation of scapula		3	3						3
Dislocation of humerus		8	7	1				5	13
Dislocation of radius and ulna		1		1					1
Dislocation of phalanges of thumb								1	1
Contusion of lower extremities	1	79	67	12			1	91	171
Sprain of knee		9	8	1				12	21
Sprain of ankle		48	36	10			2	71	119
Sprain of foot		4	2	2				2	6
Internal derangement of joints		1		1					1
Wound of lower extremities	4	38	27	11		1	3	72	114
Wound of joint, lower extremities		2		2				1	3
Injury to bursa								1	1
Fracture of femur		3	2			1		1	4
Fracture of patella	2	4	5				1	2	8
Fracture of tibia	1	4	3	2				4	9
Fracture of fibula	1	11	9	3				1	13
Fracture of tibia and fibula	5	12	10	4			3		17
Fracture of bones of foot—									
Of the tarsus		1	1						1
Of the metatarsus		2	2					6	8
Of the phalanges of the toes		2	1	1					2
Dislocation of foot		1		1					1
Dislocation of metatarsus and phalanges		1	1					1	2
Malingering		1		1					1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE PACIFIC.

Disease.	Number of cases.								
	Remaining in hospital from previous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hospital at close of year.	Treated at dispensary.	Total treated in hospital and dispensary.
TOTAL CASES.....	862	2,408	1,252	926	97	151	844	4,446	7,216
General Diseases.....	254	988	867	482	57	106	280	1,692	2,884
Smallpox.....								2	2
Chicken pox.....		2	2						1
Measles.....	1		1						1
Rubella.....								1	1
Influenza.....	1	16	14	3				114	131
Mumps.....		2	1	1				2	4
Diphtheria.....	1	1							2
Simple continued fever.....		3	3						3
Enteric fever.....	8	37	35	2		7	1	3	48
Choleraic diarrhea.....								1	1
Epidemic diarrhea.....								1	1
Dysentery.....		15	10	4		1		4	19
Barberi.....		4	1	1		1	1		4
Malarial fever—									
Intermittent.....	4	80	76	4		1	3	87	171
Remittent.....		2	2						2
Hospital gangrene.....								1	1
Erysipelas.....	1	8	9					5	14
Pyæmia.....		2		2				4	6
Septicæmia.....								1	1
Tubercle.....	208	312	17	162	48	91	202	32	552
Syphilis—									
Primary.....		3		2			1	21	32
Secondary.....	11	88	1	88	2		8	474	573
Tertiary.....		1		1					1
Gonorrhæa.....	10	141	51	88	3		9	660	751
Diseases dependent on animal parasites—									
Tænia solium.....		2	2					2	4
Tænia mediocanellata.....		4	3	1					4
Oxyuris vermicularis.....								1	1
Bothriocephalus liguloides.....								1	1
Sarcoptes scabiei.....		2	2					74	76
Ascaris mystax.....								1	1
Diseases dependent on vegetable parasites—									
Ashorion schönleinii.....								2	2
Trichophyton tonsurans.....		2		2					2
Tinea versicolor.....		2		2				4	4
Microsporon furfur.....								6	6
Effects of animal poisons—									
Decayed and poisonous food.....		2	1	1				5	7
Effects of vegetable poisons—									
Opium.....								1	1
Tobacco.....								2	2
Effects of the presence of foreign bodies.....								2	2
Effects of mechanical injuries.....		1				1			1
Effects of heat.....		1		1					1
Effects of cold.....		1					1		1
Scurvy.....		1		1				6	7
Alcoholism.....	1	38	32	6	1			56	95
Rheumatic fever.....	1	21	13	7	1		1	1	23
Rheumatism.....	4	120	80	42	1	1	1	148	272
Gout.....		2		2				1	3
Osteoarthritis.....	1			1					1
Cyst—									
Sebaceous.....		1	1					10	11
Blood.....		1	1						1
New growth, nonmalignant—									
Fibroma.....		1	1						1
Osteoma.....		2	1				1	2	4
Papilloma.....		1							1
New growth, malignant—									
Sarcoma.....		2	1		1				2
Carcinoma.....	1	4		2		2	1		5
Squamous carcinoma.....	1	1	1	1					2



TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE PACIFIC—Continued.

Disease.	Number of cases.							
	Remaining in hospital from previous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hospital at close of year.	Treated at dispensary.
<b>DISEASES OF THE EYE—Continued.</b>								
Blepharitis marginalis.....		1		1				1
Sty.....							3	3
Abscess of eyelid.....		1		1				1
<b>DISEASES OF THE EAR.</b>	1	12	9	4				34
Inflammation of the external meatus—								
Acute.....		1	1					4
Chronic.....								1
Abscess.....								1
Accumulation in external meatus of wax or epidermis.....								8
Inflammation of the middle ear—								
Nonsuppurative.....		1	1					11
Suppurative.....	1	10	7	4				8
Ulceration of membrana tympani.....								1
<b>DISEASES OF THE NOSE.</b>		2	2					48
Inflammation of soft parts.....		1	1					42
Inflammation of framework, necrosis.....		1	1					1
Epistaxis.....								3
Inflammation of the naso-pharynx.....								3
<b>DISEASES OF THE CIRCULATORY SYSTEM.</b>	7	77	11	49	3	11	10	29
Endocarditis.....	1		1					1
Valvular disease—								
Aortic.....		7	2	4			1	8
Mitral.....	2	29		19	1	7	4	6
Aortic and mitral.....	1	5		6				3
Angina pectoris.....		1					1	2
Disordered action of the heart—								
Abnormal slowness.....		1		1				1
Abnormal rapidity.....		2		2				2
Degeneration of arteries.....		2				2		2
Arterio-capillary fibrosis.....		1		1				1
Aneurysm of arteries.....	1	5		4		2		8
Embolism.....	1	1					1	1
Raynaud's disease.....		1		1				1
Phlebitis.....		2	1	1				2
Obstruction of veins.....		1						1
Thrombosis.....								2
Varix.....	2	19	6	10	2		3	8
<b>DISEASES OF THE RESPIRATORY SYSTEM.</b>	4	134	75	43	6	8	6	287
Hay fever.....								1
Inflammation of mucous membrane of larynx.....		1	1					1
Catarrhal, acute.....		1	1					15
Catarrhal, chronic.....		1	1					5
Tracheitis.....								1
Bronchitis—								
Catarrhal, acute.....		44	30	11	1		2	224
Catarrhal, chronic.....	1	21	7	10	4	1		25
Spasmodic asthma.....	1	8	2	7				6
Congestion of lung.....		2	2					2
Hæmoptysis.....		2		2				2
Pneumonia.....		25	15	2		6	2	25
Broncho-pneumonia.....		1	1					1
Chronic interstitial inflammation.....	1		1					1
Phthisis, tubercular.....		1		1				1
Emphysema.....		2		2				2
Pleurisy—								
Acute.....	1	18	13	4	1	1		7
Chronic.....		7	1	4			2	7
<b>DISEASES OF THE DIGESTIVE SYSTEM.</b>	19	228	169	55	6	7	10	592
Ulceration of the lips.....		1		1				1
Inflammation of the mouth.....								8
Ulceration of the mouth.....		2		1			1	5
Caries of dentine and cementum.....								2

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE PACIFIC—Continued.

Disease.	Number of cases.								
	Remaining in hospital from previous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hospital at close of year.	Treated at dispensary.	Total treated in hospital and dispensary.
<b>DISEASES OF THE DIGESTIVE SYSTEM—Con.</b>									
Abscess of dental periosteum.....		1	1					1	2
Inflammation of gums and alveoli.....								1	1
Ulceration of gums and alveoli.....		1	1					1	1
Caries of the alveoli.....								1	1
Necrosis of the alveoli.....								2	2
Toothache.....								8	8
Hypertrophy of gums.....		1						1	1
Sore throat.....								32	32
Ulceration of tonsils.....		1	1						1
Inflammation of tonsils— Follicular.....	1	31	29	3			52		84
Suppuration.....		9	7	2			2		11
Inflammation of the pharynx— Catarrhal.....								21	21
Granular.....							2		2
Stricture of œsophagus.....	1	1		1	1				2
Dysphagia.....		1				1			1
Inflammation of the stomach— Catarrhal, acute.....	5	41	25	15	1	3	2	88	134
Catarrhal, chronic.....								34	34
Ulceration of the stomach, superficial.....		1		1				1	2
Dilatation of the stomach.....	1						1		1
Indigestion.....		7	3	2			2	87	94
Gastralgia.....		1	1				2	1	2
Inflammation of the intestines— Enteritis.....		2	2					2	4
Typhlitis.....	1	7	7			1		4	12
Coditis.....		1	1					1	2
Catarrhal.....		5	3	2					5
Fæcal accumulation.....								1	1
Hernia.....	5	50	44	5	4		2	47	102
Obstruction of the Intestines.....		1	1						1
Intestinal dyspepsia.....								2	2
Constipation.....	1	4	2	3				99	104
Colic.....								1	1
Diarrhoea.....		6	6					24	30
Inflammation of the rectum.....								1	1
Abscess.....	1	5	4	2				3	9
Fissure of the anus.....		1	1						1
Fistula in ano.....	1	8	6	3				8	17
Prolapse of the rectum.....		2		1			1		2
Piles— Internal.....		4	3	1				5	9
External.....		8	6	1			1	17	25
Mixed.....	1	7	6	2				11	19
Pruritus ani.....								2	2
Inflammation of the liver, acute.....		2		2				1	3
Inflammation of capsule of liver.....		1	1						2
Inflammation of the liver, chronic.....	1	5	1	4		1		4	10
Hyperæmia of the liver.....		1	1						1
Jaundice.....		3	2			1		3	6
Inflammation of hepatic ducts and gall bladder.....		3	2	1				1	4
Calculi.....		1	1						1
Accumulation of bile.....								5	5
Inflammation of the peritonæum.....		2	1	1					2
Droopy.....		1		1					1
<b>DISEASES OF THE LYMPHATIC SYSTEM</b> ... 3 36 21 17 1 44 83									
Splenitis.....							1	1	1
Inflammation of lymph glands.....	3	32	20	14			1	35	70
Suppuration.....		2		2				7	9
Inflammation of lymphatics.....		2	1	1				1	3
<b>DISEASES OF THE THYROID BODY—Goitre</b> ... 1									

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE PACIFIC—Continued.

Disease.	Number of cases.								
	Remaining in hos- pital from previ- ous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hos- pital at close of year.	Treated at dispen- sary.	Total treated in hospital and dis- pensary.
<b>DISEASES OF THE URINARY SYSTEM.</b>									
Acute nephritis.	3	46	11	27	3	5	3	59	108
Bright's disease.	1	10	4	6			1	5	16
Chronic nephritis.								3	3
Granular kidney.	1	15		12		2	2		16
Abcess, pyonephrosis.		4		2					4
Pyelitis.	1		1	1					1
Calculus in kidney.		2	1	1				2	4
Suppression of urine.		1						1	1
Hæmaturia.		2	1		1				1
Phosphaturia.								2	2
Inflammation of bladder—								2	2
Acute.		7	3	1	2	1		30	37
Subacute.								11	11
Chronic.		5	2	3				1	6
Incontinence of urine.								4	4
<b>DISEASES OF THE GENERATIVE SYSTEM.</b>									
Urethritis.	8	105	64	33	5	1	10	231	344
Gleet.								4	4
Stricture of urethra—								6	6
Organic.	1	19	11	6	1	1	1	31	51
Traumatic.		2	1				1		2
Inflammation of the prostate—									
Acute.		2		2					2
Chronic.		1		1					1
Abcess of prostate.		1					1	1	2
Hypertrophy of the prostate.		1					1	1	2
Phimosis.	1	2	3					7	10
Paraphimosis.		1		1				2	3
Inflammation of the glans, penis.	1			1				2	3
Ulcer of penis.		3	3						3
Gangrene.		1	1						1
Soft chancre.	3	28	18	10	1		2	125	156
Hydrocele of the spermatic cord.		1		1					1
Varicocele.	1	15	12	2	1		1	15	31
Hydrocele of tunica vaginalis.		6	5	1				3	9
Inflammation of the testicle—									
Acute orchitis.	1	10	5	4	1		1	18	29
Chronic orchitis.		3	1	1	1			6	9
Epididymitis.		6	2	3			1	3	9
Spermatorrhœa.								5	5
Sloughing of scrotum.		1					1		1
Abrasion of cervix of uterus.								1	1
Torsion of spermatic cord.		1	1						1
Inflammation mammary gland.		1	1					1	2
<b>DISEASES OF THE ORGANS OF LOCOMOTION.</b>									
Inflammation of the bones—	6	50	34	15	1		6	168	224
Osteitis.		2		2					2
Periostitis.		5		4			1		5
Necrosis.		3	1	1			1	1	4
Ununited fracture or false joint.		1	1						1
Inflammation of joints—									
Acute synovitis.	1	7	5	2			1	6	14
Chronic synovitis.								2	2
Ankylosis.	1	1	1				1		2
Dislocation of articular cartilage.								1	1
Loose body in joint.	1		1						1
Necrosis of the spine.								1	1
Suppuration of muscles.								1	1
Myalgia.	1	23	17	5			2	135	159
Contracture of muscle.								2	2
Inflammation of tendons.								2	2
Ganglion.		1	1					1	2
Inflammation of bursæ—									
Acute.		1	1					15	16
Chronic.		2	2						2
Bunion.	2		2						2

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE PACIFIC—Continued.

Disease.	Number of cases.							
	Remaining in hospital from previous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hospital at close of year.	Treated at dispensary.
<b>DISEASES OF THE ORGANS OF LOCOMOTION—Continued.</b>								
Bursal cyst.....		1	1					1
Bursal tumor.....		1	1					1
Deformity of little toe.....		1			1			1
Flat foot.....		1		1				2
<b>DISEASES OF THE CONNECTIVE TISSUE.....</b>	2	59	38	22			1	158
Inflammation.....	2	26	15	13				13
Abscess.....		33	23	9			1	145
<b>DISEASES OF THE SKIN.....</b>	3	72	49	21	1		4	306
Erythema.....		3	3					3
Urticaria.....		3	3					17
Eczema.....		8	4	3			1	45
Impetigo.....		1	1					6
Pityriasis rubra.....		1	1					1
Lichen.....								1
Psoriasis.....		1		1				10
Herpes.....		2	1	1				11
Zona.....		1	1					2
Dermatitis herpetiformis.....								3
Acne.....								2
Sycosis.....		1	1					1
Seborrhœa.....								2
Leucoderma.....								1
Ulcer.....	3	30	19	11	1		2	83
Boil.....		12	11	1				114
Carbuncle.....		6	2	3			1	2
Whitlow.....								1
Onychia.....		1	1					5
Tylosis.....		1		1				1
Corn.....		1	1					1
Pruritus.....								1
<b>Injuries.....</b>	30	540	367	155	6	4	38	658
<b>GENERAL INJURIES.....</b>		12	7	4			1	40
Effects of heat—								
Burns and scalds.....		6	4	2				31
Sunstroke.....		2		1			1	
Multiple injury.....		4	3	1				7
Shock.....								2
<b>LOCAL INJURIES.....</b>	30	528	360	151	6	4	37	618
Wound puncture nerves.....								1
Contusion of veins.....								3
Rupture of veins.....		3	2	1				2
Strain of muscles.....		2	2					2
Rupture of tendons.....		1	1					1
Abrasion of skin.....								1
Burn or scald of skin.....	2	13	12	3				15
Frostbite.....		1		1				2
Contusion of scalp.....			1					1
Wound of scalp.....		11	8	2			1	22
With injury to the aponeurosis.....		8	4	3			1	19
With injury to the pericranium.....		1		1				
Contusion of skull.....		2	1	1				2
Fracture of the vault of skull.....		3	1	1	1			3
Fracture of the base of skull.....		3	2	1				3
Concussion of brain.....		3	2	1				1
Laceration middle lobe brain.....		1	1					1
Contusion of face.....		2	1	1				3
Wound of face and mouth.....		14	12	2				21
Fracture of facial bones.....	2	15	11	6				6
Dislocation of nasal cartilages.....								1
Contusion of eyelid.....		2	2				1	1
Wound of eyelid.....		2	1					3
Subconjunctival hemorrhage.....								1



TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## DISTRICT OF THE PACIFIC—Continued.

Disease.	Number of cases.							
	Remaining in hospital from previous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hospital at close of year.	Treated at dispensary.
<b>LOCAL INJURIES—Continued.</b>								
Foreign bodies in the conjunctiva or cornea.		1	1					6
Foreign bodies in the eyeball.								2
Wound of eyeball.		3	2	1				1
Wound of pinna.		1	1					
Rupture of heart.		1				1		
Contusion of neck.		1	1					
Contusion of chest.		13	9	4				18
Dislocation of costal cartilages.								1
Fracture of ribs.		15	9	4		1	1	7
Fracture of sternum.		1		1				
Wound of parietes of chest.		1	1					
Penetrating wound of pleura or lung.	1		1					
Gunshot wound.		3	2	1				
Contusion of back.		22	14	6	1		1	28
Sprain of back.		8	7	1				16
Wound of back.								1
Contusion of abdomen.		2	1	1				3
Wound of parietes of abdomen.		1	1					4
Rupture of ilium.		2	1			1		
Contusion of the perineum, scrotum, or penis.		1	1					
Wound of the male urethra, perineum, scrotum, testes, or penis.		1					1	1
Rupture of urethra.		1		1				1
Fracture or dislocation of pelvic bones.		2	2					
Contusion of testicle.		2	1	1				
Contusion of upper extremities.		21	15	6				59
Sprain of shoulder.		4	2	2				12
Sprain of elbow.								3
Sprain of wrist.	1	4	5					28
Sprain of hand.								7
Sprain of thumb.		3	1	2				4
Sprain of fingers.								2
Wound of upper extremities.	5	51	39	16			1	115
Wound of joint, upper extremities.		1		1				4
Fracture of clavicle.		9	5	4				5
Fracture of scapula.		2	1					1
Fracture of humerus.	1	6	3	2			2	
Fracture of bones of forearm—								
Radius.		8	4	2			2	1
Ulna.		5	4	1				
Both bones.		7	2	3			2	1
Fracture of carpus, metacarpus, or phalanges.	1	11	7	4	1			3
Dislocation of humerus.		6	5				1	1
Dislocation of radius and ulna.	1		1					
Dislocation of phalanges of thumb.		1	1					
Contusion of lower extremities.	6	66	54	15			3	61
Sprain of knee.		10	4	4	1		1	15
Sprain of ankle.	1	45	30	14			2	29
Sprain of foot.		1	1					
Internal derangement of joints.	1			1				
Wound of lower extremities.	2	38	23	13	1	1	2	69
Wound of joint, lower extremities.	1		1					1
Fracture of femur.	1	6	1	3			3	3
Fracture of cervix femoris.		1	1					
Fracture of patella.	1	2	3					
Fracture of tibia.	1	14	10	3			2	
Fracture of fibula.	1	9	4	4			2	
Fracture of tibia and fibula.	1	18	8	5			6	
Fracture of bones of foot.	1	1	1					
Of the metatarsus.		1			1			
Of the phalanges of the toes.		4	3	1				1
Dislocation of femur.	1	1					1	1
Dislocation of tibia.	1	1	1					
Dislocation of foot.	1	1	1					
Injury of bursa.								1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## PACIFIC ISLANDS.

Disease.	Number of cases.							
	Remaining in hospital from previous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hospital at close of year.	Treated at dispensary.
TOTAL CASES.....	16	165	101	61	3	4	12	296
General Diseases.....	5	58	28	31	1	3	5	146
Smallpox.....		1	1					
Plague.....		1					1	
Dengue.....		2	2					
Influenza.....		3	3					2
Diphtheria.....		1	1					
Simple continued fever.....		1	1					1
Enteric fever.....		4	4					1
Dysentery.....	1	1		1			1	
Malarial fever:								
Intermittent.....		1	1					2
Remittent.....							1	3
Tubercle.....	2	7	1	6		1	1	14
Syphilis, secondary.....		6		6				32
Gonorrhea.....	1	11		11			1	47
Diseases dependent on animal parasites:								
<i>Tenia solium</i> .....		1	1					2
<i>Sarcoptes scabiei</i> .....								4
Diseases dependent on vegetable parasites:								
<i>Trichophyton tonsurans</i> .....								1
Effects of vegetable poisons.....		1				1		
Unknown.....		1	1					
Effects of inorganic poisons: Dr. Kennedy's medical discovery.....		1		1				2
Effects of the presence of foreign bodies.....								1
Alcoholism.....		2	2					3
Rheumatic fever.....	1	2	1	2				
Rheumatism.....		4	2	2				17
New growth, nonmalignant:								
Lipoma.....								1
Myxoma.....		1	1					
Papilloma.....		1					1	5
Mucous polypus of nose.....								1
New growth, malignant:								
Carcinoma.....		1				1		
Squamous carcinoma.....		3	1	1	1			
Diabetes mellitus.....		1		1				1
Debility.....								6
Local Diseases.....	4	112	76	28	4	0	8	310
DISEASES OF THE NERVOUS SYSTEM.....	1	7	2	4	1		1	9
Of the nerves—								
Inflammation, neuritis.....		2		1			1	2
Hyperæmia.....		1	1					
Functional nervous disorders with other diseases of undetermined nature—								
Epilepsy.....		1		1				
Headache.....								1
Hyperæsthesia.....								1
Hysteria.....								1
Nervous weakness.....		2		2				3
Hiccough.....		1	1					
Mental diseases—								
General paralysis of the insane.....	1				1			
Delusional insanity.....								1
DISEASES OF THE EYE.....		4	3	1				3
Keratitis.....		1		1				1
Iritis.....		2	2					1
Retinitis.....								1
Blepharitis marginalis.....		1	1					
DISEASES OF THE EAR.....								3
Accumulation in external meatus of wax or epidermis.....								2
Deafness.....								1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## PACIFIC ISLANDS—Continued.

Disease.	Number of cases.							
	Remaining in hospital from previous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hospital at close of year.	Treated at dispensary.
<b>DISEASES OF THE NOSE</b> .....								4
Inflammation of soft parts.....								2
Inflammation of the naso-pharynx.....								2
<b>DISEASES OF THE CIRCULATORY SYSTEM</b> .....		1					1	2
Angina pectoris.....		1					1	1
Disordered action of the heart: Irregularity.....								1
<b>DISEASES OF THE RESPIRATORY SYSTEM</b> .....		3	3					13
Bronchitis—								
Catarrhal, acute.....		1	1					7
Catarrhal, chronic.....								5
Pneumonia.....		2	2					2
Pleurisy, acute.....								1
<b>DISEASES OF THE DIGESTIVE SYSTEM</b> .....		16	11	4	1		43	59
Caries of dentine and cementum.....		1			1		5	6
Abscess of dental periosteum.....		1	1					1
Inflammation of gums and alveoli.....		1					1	1
Sore throat.....							1	1
Inflammation of tonsils—								
Follicular.....		1	1				4	5
Suppuration.....							1	1
Inflammation of the stomach—								
Catarrhal, acute.....							10	10
Catarrhal, chronic.....							4	4
Indigestion.....							2	2
Vomiting.....							3	3
Inflammation of the intestines—								
Enteritis.....		1		1				1
Typhlitis.....		4	4					6
Hernia.....		3	3					5
Constipation.....			3				2	2
Colic.....							1	1
Diarrhoea.....							2	2
Enteralgia.....		1		1			1	2
Periproctitis, abscess.....		1	1					1
Piles, external.....		1	1					1
Inflammation of liver, chronic.....		1		1				1
Jaundice.....		1		1			2	3
<b>DISEASES OF THE LYMPHATIC SYSTEM</b> .....		2	1	1			3	5
Inflammation of lymph glands.....		1	1				2	3
Suppuration.....							1	1
Inflammation of lymphatics.....		1		1				1
<b>DISEASES OF THE URINARY SYSTEM</b> .....		4	3	1			5	9
Acute nephritis.....		2	2					2
Bright's disease, granular kidney.....		1		1				1
Inflammation of bladder—								
Acute.....		1	1					1
Chronic.....							5	5
<b>DISEASES OF THE GENERATIVE SYSTEM</b> .....		7	5	1			1	16
Urethritis.....							4	4
Gleet.....							1	1
Stricture of urethra, organic.....		1		1				1
Urethral fistula.....		1					1	1
Phimosis.....		1	1					1
Ulcer of penis.....		1	1				3	4
Soft chancre.....		2	2				6	8
Inflammation of the spermatic cord.....							1	1
Varicocele.....		1	1					1
Spermatorrhoea.....							1	1
<b>DISEASES OF THE ORGANS OF LOCOMOTION</b> .....		1	1					18
Inflammation of joints: Acute synovitis.....							1	1
Ankylosis.....							2	2
Myalgia.....							15	15
Bunion.....		1	1					1

TABLE VII.—TABULAR STATEMENT, BY DISTRICTS, OF DISEASES AND INJURIES TREATED DURING THE FISCAL YEAR ENDED JUNE 30, 1905—Continued.

## PACIFIC ISLANDS—Continued.

Disease.	Number of cases.							
	Remaining in hospital from previous year.	Admitted during the year.	Recovered.	Improved.	Not improved.	Died.	Remaining in hospital at close of year.	Treated at dispensary.
<b>DISEASES OF THE CONNECTIVE TISSUE.</b>		6	5				1	6
Inflammation.....								3
Abscess.....		6	5				1	8
Edema.....								1
<b>DISEASES OF THE SKIN.</b>	1	5	4	2				31
Eczema.....								5
Impetigo.....		1	1					4
Acne.....								2
Sudamina.....		1	1					1
Ulcer.....		1	1					4
Boll.....	1		1					10
Carbuncle.....		1		1				1
Whitlow.....		1		1				4
Corn.....								3
Injuries.....	9	51	40	16		1	3	95
<b>GENERAL INJURIES.</b>		3	1	2				4
Burns and scalds.....		2	1	1				4
Effects of cold.....		1		1				1
<b>LOCAL INJURIES.</b>	9	48	39	14		1	3	91
Abrasion of skin.....								6
Wound of skin.....								5
Contusion of scalp.....		1	1					1
Wound of scalp.....								3
With injury to the aponeurosis.....		4	4					4
Wound of face and mouth.....		1	1					4
Fracture of facial bones.....	1	1	1	1				2
Dislocation of lower jaw.....		1	1	1				1
Wound of eyelid.....		1	1	1				1
Sub-conjunctival hæmorrhage.....							1	1
Foreign bodies in the conjunctiva or cornea.....		1		1				3
Wound of pinna.....		1	1					1
Wound of neck.....	1		1					1
Contusion of chest.....			1					2
Fracture of ribs.....		1		1				1
Penetrating wound of pleura or lung.....		1	1					1
Contusion of back.....								2
Sprain of back.....	1		1					2
Wound of the male urethra, perinæum, scrotum, testis, or penis.....								1
Fracture of spine with displacement.....	1					1		1
Contusion of testicle.....								1
Contusion of upper extremities.....		1	1					9
Sprain of elbow.....		1	1					2
Sprain of wrist.....								1
Wound of upper extremities.....	1	11	10	2				18
Fracture of clavicle.....		1	1					1
Fracture of humerus.....		1	1					1
Fracture of bones of forearm—								
Radius.....		2					2	2
Both bones.....		2		2				2
Fracture of carpus, metacarpus, or phalanges.....		1	1					1
Dislocation of phalanges of thumb.....		1		1				1
Contusion of lower extremities.....		8	4	3			1	14
Sprain of knee.....	1	1	2					3
Wound of lower extremities.....		4	4					12
Fracture of tibia.....	1		1					1
Fracture of fibula.....							1	1
Fracture of tibia and fibula.....	2	1	2	1				2
Fracture of bones of foot: Of the tarsus.....	1			1				1



TABLE VIII.—TABULATED STATEMENT, BY DISTRICTS, OF CAUSES OF MORTALITY AMONG PATIENTS OF THE SERVICE DURING THE YEAR ENDED JUNE 30, 1905.

Cause of death.	Total.	Districts.							
		Atlantic.	West Indies.	Gulf.	Ohio.	Mississippi.	Great Lakes.	Pacific.	Quarantine stations.
<b>Total deaths from all causes</b> .....	<b>522</b>	<b>173</b>	<b>1</b>	<b>45</b>	<b>23</b>	<b>47</b>	<b>76</b>	<b>151</b>	<b>4</b>
<b>FROM INJURIES</b> .....	<b>28</b>	<b>14</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>4</b>	<b>10</b>	<b>4</b>	<b>0</b>
<b>FROM DISEASES</b> .....	<b>494</b>	<b>159</b>	<b>1</b>	<b>41</b>	<b>22</b>	<b>43</b>	<b>66</b>	<b>147</b>	<b>4</b>
<b>General Diseases</b> .....	<b>279</b>	<b>80</b>	<b>0</b>	<b>21</b>	<b>9</b>	<b>23</b>	<b>35</b>	<b>106</b>	<b>3</b>
Smallpox .....	3					1	2		
Influenza .....	4	2		1	1				
Diphtheria .....	1					1			
Cerebrospinal fever .....	1						1		
Enteric fever .....	32	11		5	3	2	4	7	
Dysentery .....	3	1				1		1	
Yellow fever .....	2								2
Malarial cachexia .....	1							1	
Malarial fever .....	1								
Intermittent .....	8	6				1		1	
Remittent .....	6	2				4			
Erysipelas .....	2					2			
Septicæmia .....	1	1							
Tubercle .....	184	49		10	5	8	20	91	1
Syphilis, secondary .....	3					1	2		
Gonorrhea .....	1						1		
Effects of vegetable poisons .....	1								1
Opium .....	1			1					
Alcoholism .....	2	1					1		
Rheumatic fever .....	4	2		1				1	
Rheumatism .....	3	1		1		1			
Osteoarthritis .....	1	1							
New growth, malignant:									
Sarcoma .....	1			1					
Carcinoma .....	6						2	2	1
Anæmia .....	1	1							
Idiopathic anæmia .....	1							1	
Hodgkin's disease .....	1							1	
Diabetes mellitus .....	3	1					2		
<b>Local diseases</b> .....	<b>206</b>	<b>79</b>	<b>1</b>	<b>21</b>	<b>13</b>	<b>20</b>	<b>31</b>	<b>41</b>	
<b>DISEASES OF THE NERVOUS SYSTEM</b> .....	<b>33</b>	<b>9</b>		<b>4</b>	<b>1</b>	<b>3</b>	<b>7</b>	<b>9</b>	
Of the nerves—									
Inflammation—									
Neuritis .....	1						1		
Multiple neuritis .....	1						1		
Of the spinal cord and membranes cord—									
Inflammation .....	1			1					
Hæmorrhage .....	1							1	
Degeneration—									
Of lateral columns .....	1	1							
Of posterior columns .....	3					2	1		
Insular sclerosis .....	1							1	
Of the brain and its membranes—mem-									
branes—									
Inflammation of pia mater and arach-									
noid .....	1								
Hæmorrhage .....	2							1	
Of the brain and its membranes—brain									
Inflammation .....	1	1							
Abscess .....	1						1		
Hæmorrhage .....	3	1		1			1		
Functional nervous disorders with									
other diseases of undetermined nature—									
Apoplexy .....	3			1			1	1	
Paralysis, hemiplegia .....	6	2		1	1	1	1		
Headache .....	1							1	
Mania .....	1							1	
Dementia .....	1							1	
Melancholia .....	1	1							
Mental stupor .....	1	1							
General paralysis of the insane .....	2	2							

TABLE VIII.—TABULATED STATEMENT, BY DISTRICTS, OF CAUSES OF MORTALITY AMONG PATIENTS OF THE SERVICE DURING THE YEAR ENDED JUNE 30, 1905—Continued.

Cause of death.	Total.	Districts.							
		Atlantic.	West Indies.	Gulf.	Ohio.	Mississippi.	Great Lakes.	Pacific.	Pacific islands.
<b>DISEASES OF THE CIRCULATORY SYSTEM</b> .....	62	22		5	7	7	10	11	
Pericarditis.....	3						3		
Endocarditis.....	1						1		
Valvular disease—									
Aortic.....	6	6							
Mitral.....	24	6		4	4	1	2	7	
Aortic and mitral.....	11	5		1	2	2	1		
Myocarditis.....	1					1			
Degeneration of heart, fatty.....	2					1	1		
Hypertrophy of heart.....	1				1	1			
Disordered action of the heart: Irregularity.....	1						1		
Degeneration of arteries.....	2							2	
Arterio-capillary fibrosis.....	1	1							
Aneurysm of arteries.....	7	2				2	1	2	
Obstruction of arteries.....	1	1							
Varix.....	1	1							
<b>DISEASES OF THE RESPIRATORY SYSTEM</b> .....	46	21	1	4	2	4	6	8	
Hay fever.....	1			1					
Inflammation of mucous membrane of larynx, spasm of larynx.....	1	1							
Bronchitis—									
Catarrhal, acute.....	4	4							
Catarrhal, chronic.....	5	1					3	1	
Spasmodic asthma.....	2	1		1					
Pneumonia.....	25	11	1		2	3	2	6	
Broncho-pneumonia.....	2	1					1		
Phthisis, acute.....	1							1	
Pleurisy, acute.....	2	1		1					
Oedema of lungs.....	2			1		1			
Gangrene.....	1	1							
<b>DISEASES OF THE DIGESTIVE SYSTEM</b> .....	25	10		3		2	3	7	
Dysphagia.....	1						1	1	
Inflammation of the stomach, catarrhal, acute.....	4	1						3	
Ulceration of the stomach.....	1	1							
Superficial.....	1						1		
Dilatation of the stomach.....	1	1							
Inflammation of the intestines—									
Enteritis.....	2			2					
Typhlitis.....	5	2				1	1	1	
Hernia.....	1	1							
Intussusception.....	1					1			
Inflammation of the liver, chronic.....	3	1					1	1	
Degenerations of the liver, cancer of the liver.....	1	1							
Jaundice.....	1							1	
Inflammation of the peritoneum.....	2	1		1					
Dropsy.....	1	1							
<b>DISEASES OF THE THYROID BODY: Goitre</b> .....	1				1				
<b>DISEASES OF THE URINARY SYSTEM</b> .....	30	13		4	2	3	3	5	
Acute nephritis.....	5	4			1				
Bright's disease.....	6	4		2					
Chronic nephritis.....	9	2		2		2	1	2	
Granular kidney.....	5	2					1	2	
Abscess, pyonephrosis.....	1				1				
Hemoglobinuria.....	1					1			
Inflammation of bladder—									
Acute.....	1							1	
Chronic.....	2	1					1		
<b>DISEASES OF THE GENERATIVE SYSTEM</b> .....	3			1		1		1	
Stricture of urethra, organic.....	2			1				1	
Hypertrophy of the prostate.....	1					1			
<b>DISEASES OF THE ORGANS OF LOCOMOTION:</b>									
Necrosis of the spine.....	1	1							

TABLE VIII.—TABULATED STATEMENT, BY DISTRICTS, OF CAUSES OF MORTALITY AMONG PATIENTS OF THE SERVICE DURING THE YEAR ENDED JUNE 30, 1905—Continued.

Cause of death.	Total.	Districts.							
		Atlantic.	West Indies.	Gulf.	Ohio.	Mississippi.	Great Lakes.	Pacific.	Pacific islands. Quarantine sta- tions.
DISEASES OF THE CONNECTIVE TISSUE.....	3	3							
Inflammation.....	2	3							
Abscess.....	1	1							
DISEASES OF THE SKIN: Ulcer.....	2						2		
Injuries.....	38	14		4	1	4	10	4	1
GENERAL INJURIES.....	5	2		1		1	1		
Effects of heat, sunstroke.....	1			1					
Multiple injury.....	2					1	1		
Suffocation.....	2	2							
LOCAL INJURIES.....	33	12		3	1	3	9	4	1
Burn or scald of skin.....	2	2							
Fracture of the vault of skull.....	3	2					1		
Fracture of the base of skull.....	4	1					3		
Concussion of brain.....	1			1					
Fracture of facial bones.....	1	1							
Rupture of heart.....	1							1	
Gunshot wound.....	5	1		1		3			
Fracture of ribs.....	2	1						1	
Fracture of spine.....	1	1							
Fracture of spine with displacement.....	2						1		1
Contusion of abdomen.....	1						1		
Wound of parietes of abdomen.....	1				1				
Rupture of ilium.....	1							1	
Fracture of carpus, metacarpus, or pha- langes.....	1						1		
Wound of lower extremities.....	3			1			1	1	
Fracture of femur.....	2	1					1		
Fracture of tibia and fibula.....	1	1							
Dislocation of fibula.....	1	1							

TABLE IX.—RATIO OF DEATHS FROM SPECIFIC CAUSES.

Deaths from—	Per 100 from all causes.	Deaths from—	Per 100 from all causes.
General diseases.....	53.46	Diseases of the digestive system.....	4.79
Diseases of the nervous system.....	6.32	Diseases of the genito-urinary system..	5.74
Diseases of the circulatory system.....	11.88	Injuries.....	7.09
Diseases of the respiratory system.....	8.81	All other diseases.....	1.91

TABLE X.—RATIO OF DEATHS IN EACH DISTRICT.

District.	Per 100 patients treated in hos- pital.	District.	Per 100 patients treated in hos- pital.
Atlantic.....	3.34	Great Lakes.....	2.59
West Indies.....	.97	Pacific.....	5.45
Gulf.....	2.95	Pacific islands.....	2.21
Ohio.....	3.13	Quarantine stations.....	6.45
Mississippi.....	3.91		



TABLE XI.—COMPARATIVE EXHIBIT—MORTALITY PER 100 PATIENTS TREATED IN HOSPITAL, BY DISTRICTS, 1896-1905.

District.	General average.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Atlantic.....	3.36	3.46	3.17	3.32	3.36	3.42	3.23	3.10	4.13	3.18	3.34
West Indies.....	2.02									3.07	.97
Gulf.....	3.22	2.90	3.33	2.94	2.78	4.11	2.67	3.59	3.78	2.96	2.95
Ohio.....	2.97	3.24	2.78	2.73	3.28	3.58	2.18	2.16	2.86	3.76	3.13
Mississippi.....	3.13	3.20	2.92	3.18	3.13	3.46	3.46	2.38	2.97	2.67	3.91
Great Lakes.....	2.74	2.26	2.86	2.34	3.26	2.42	2.91	2.34	3.84	2.63	2.59
Pacific.....	4.44	4.70	4.40	3.43	4.87	3.78	3.62	3.93	4.90	5.29	5.45
Pacific islands.....	4.35								8.57	2.28	2.21
Quarantine stations..	6.42	4.76	4.94	2.68	1.15	12.90	6.38	6.06	12.12	6.77	6.45

TABLE XII.—COMPARATIVE EXHIBIT—RATIO OF DEATHS FROM SPECIFIC CAUSES, 1896-1905.

Deaths from—	General average.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
General diseases.....	48.74	50.70	48.99	45.45	55.60	44.02	45.60	44.01	48.06	49.49	53.46
Diseases of the—											
Nervous system....	5.65	4.65	5.56	6.56	3.02	3.62	8.78	7.29	5.36	5.30	6.32
Circulatory system	10.83	11.39	9.85	12.86	9.07	9.71	11.87	12.23	10.72	8.76	11.88
Respiratory system.....	11.75	12.23	10.35	11.29	9.30	15.12	13.53	13.54	11.64	14.66	8.81
Digestive system....	7.40	6.51	9.09	7.35	7.67	9.70	6.65	7.55	7.39	7.33	4.79
Urinary system....	6.30	3.49	7.07	5.25	8.37	9.03	5.70	4.94	6.65	6.72	5.74
Injuries.....	6.43	6.28	6.31	8.66	5.35	6.32	5.22	7.55	6.47	5.09	7.09
From all other causes..	2.90	4.65	2.78	2.63	1.62	2.48	2.61	2.86	3.71	2.65	1.91

TABLE XIII.—COMPARATIVE EXHIBIT—AVERAGE DURATION OF TREATMENT IN HOSPITAL IN EACH DISTRICT, 1896-1905.

District.	General average.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Atlantic.....	29.35	32.52	28.93	30.74	32.00	27.88	28.82	29.35	28.36	27.48	27.43
West Indies.....	23.44								20.47	23.90	22.94
Gulf.....	23.65	22.24	22.41	21.35	21.41	23.15	22.78	25.65	27.14	27.52	22.89
Ohio.....	22.38	25.43	22.20	23.83	23.02	21.98	20.88	20.81	21.53	21.48	22.67
Mississippi.....	17.33	20.74	19.00	18.57	17.56	15.47	15.42	18.41	15.30	16.62	16.26
Great Lakes.....	23.53	28.25	26.27	25.45	24.02	20.24	21.20	21.15	21.90	23.61	23.19
Pacific.....	39.44	38.81	36.20	28.41	29.12	31.15	38.17	42.34	48.16	50.81	51.27
Pacific islands.....	27.91								26.15	26.10	31.48
Quarantine stations..	13.84	10.00	11.69	9.00	10.43	13.72	21.21	18.48	20.42	10.28	13.19

TABLE XIV.—SURGICAL OPERATIONS, FISCAL YEAR 1905.

Operations.	No. of cases.	Remarks.
Total number of operations.....	1,564	
OPERATIONS ON TUMORS:		
Removal by excision.....	44	
For lipoma.....	9	
For fibroma.....	4	
For osteoma.....	4	
For chondroma.....	1	
For sarcoma.....	5	
For carcinoma.....	12	
For condyloma.....	4	
For epithelioma.....	2	
For hematoma.....	1	
For myxoma.....	2	
OPERATIONS ON CYSTS.....	38	
Sebaceous cyst.....	19	
Bursal cyst.....	14	
Dermoid cyst.....	5	
EVACUATION OF ABSCESSES:		
By free incision and drainage.....	161	
Abscess of—		
Antrum.....	1	
Arm.....	7	
Forearm.....	1	
Axilla.....	2	
Back.....	5	
Breast.....	1	
Face.....	10	
Foot.....	2	
Finger.....	12	
Hand.....	38	
Ischio rectal fossa.....	29	
Knee.....	1	
Leg.....	13	
Lower jaw.....	1	
Neck.....	9	
Perineum.....	6	
Scalp.....	6	
Thigh.....	9	
Tonsil.....	3	
Psoas muscle.....	1	
Orbit.....	1	
Penis.....	1	
Scrotum.....	1	
Pharynx.....	1	
OPERATIONS FOR REMOVAL OF FOREIGN BODIES.....	11	
From—		
Eye.....	4	
Elbow.....	2	
Leg.....	3	
Wrist.....	2	
OPERATIONS ON BLOOD VESSELS.....	44	
Operations on arteries.....	5	
Ligation for hemorrhage.....	2	
For aneurism.....	3	2 aneurism femoral; 1 aneurism popliteal.
Operations on veins.....	39	
Obliteration of varices leg.....	38	33 ligation and excision; 5 ligation only.
Phlebotomy.....	1	
OPERATIONS ON NERVES.....	6	
Stretching of a nerve.....	5	
Union of divided nerve.....	1	Ulna

TABLE XIV.—SURGICAL OPERATIONS, FISCAL YEAR 1905—Continued.

Operations.	No. of cases.	Remarks.
OPERATION ON THE LYMPHATIC ORGANS.....	268	
Incision and drainage of inflamed and suppurating glands.....	77	
Groin.....	66	
Neck.....	8	
Axilla.....	3	
Removal of lymphatic glands.....	191	
Groin.....	177	
Neck.....	13	
Axilla.....	1	
OPERATIONS ON THE SKIN AND SUBCUTANEOUS TISSUE.....	59	
For chronic ulcer of leg.....	14	} 8 Thiersch's method. 2 Reverdin's method. 4 curetted.
Wound of—		
Scalp.....	11	
Face.....	7	
Arm.....	7	
Hand.....	2	
Finger.....	8	
Chest.....	2	
Leg.....	7	
Back.....	1	
OPERATIONS ON BONES.....	94	
Excision of portion of bone.....	20	
Of tibia.....	3	For necrosis.
Of femur.....	2	Do.
Of ribs.....	2	Do.
Of fibula.....	2	Do.
Of metatarsal.....	3	For necrosis, 1; for bunion, 2.
Of astragalus.....	2	For necrosis.
Of clavicle.....	1	
Of humerus.....	2	
Of superior maxillary.....	1	
Of astragalus.....	2	
Removal of fragments of bones by curetting and scraping.....	10	
Of ulna.....	1	For necrosis.
Of inferior maxilla.....	4	Do.
Of tarsus.....	1	Do.
Of tibia.....	4	Do.
Operations for ununited fractures.....	7	
Of tibia and fibula.....	2	} Wired.
Of olecranon.....	2	
Of femur.....	1	
Of inferior maxilla.....	2	
Operations on fractured bones for fracture of.....	57	
Inferior maxilla.....	5	} Bones wired; fragments removed or plaster dressing applied.
Clavicle.....	4	
Humerus.....	2	
Radius and ulna.....	3	
Patella.....	7	
Radius.....	1	
Femur.....	7	
Tibia and fibula.....	8	
Tibia.....	11	
Fibula.....	5	
Scapula.....	1	
Metacarpal.....	2	
Vertebra, cervical.....	1	

TABLE XIV.—SURGICAL OPERATIONS, FISCAL YEAR 1905—Continued.

Operations.	No. of cases.	Remarks.
<b>OPERATIONS ON JOINTS.....</b>	<b>22</b>	
Reduction of dislocation.....	13	
Shoulder.....	10	
Elbow.....	1	
Hip.....	1	
Inferior maxilla.....	1	
Operations for ankylosis of joints.....	6	
Shoulder.....	4	
Knee.....	1	
Wrist.....	1	
Aspiration and injection.....	4	1 knee.
Incision of joints.....	3	
Wrist.....	1	
Knee.....	1	
Elbow.....	1	
<b>OPERATIONS ON MUSCLES, TENDONS, AND FASCIA....</b>	<b>6</b>	
Tenotomy.....	4	
Tenotomy ocular.....	1	
Suture of tendon.....	1	Finger.
<b>AMPUTATIONS.....</b>	<b>100</b>	
Of thigh.....	2	
Of leg.....	7	
Of arm.....	1	
Of finger.....	49	
Of toe.....	34	
Of foot.....	7	
<b>OPERATIONS ON THE SKULL.....</b>	<b>12</b>	
Trephining and removal of portions of bone.....	6	
Opening of mastoid cells.....	6	
<b>OPERATIONS ON THE SPINE AND SPINAL CORD.....</b>	<b>1</b>	
Excision of neural arches.....	1	For relief of pressure and fracture.
<b>OPERATIONS ON FACE, NASAL CAVITIES, AND MOUTH.....</b>	<b>9</b>	
For deformity of nose from necrosis of nasal bones.....	1	1 plastic operation
Removal of polypi.....	2	
For deviation of nasal septum.....	2	Asch's operation.
Removal of tonsils.....	3	For hypertrophy.
Removal of nasal spine.....	1	
<b>OPERATIONS ON THE EYE AND ITS APPENDAGES.....</b>	<b>20</b>	
Extraction of lens.....	3	
Excision of eyeball.....	4	
Iridectomy.....	6	
Removal of pterygium.....	4	
Plastic operation on eyelid.....	3	
<b>OPERATIONS ON THE LARYNX, TRACHEA, AND THYROID BODY.....</b>	<b>1</b>	
Tracheotomy.....	1	Successful.
<b>OPERATIONS ON THE THORAX AND BREAST.....</b>	<b>47</b>	
Paracentesis of the pleural cavity.....	34	
Thoracotomy with excision of part of rib.....	5	
Thoracotomy, simple incision.....	5	
Estlander's operation.....	2	
Paracentesis of pericardium.....	1	

TABLE XIV.—SURGICAL OPERATIONS, FISCAL YEAR 1905—Continued.

Operations.	No. of cases.	Remarks.
OPERATIONS ON THE ABDOMEN.....	233	
Paracentesis of the abdomen.....	4	
Abdominal section.....	62	
Appendicitis.....	32	29 recovered; 3 died.
Peritonitis.....	5	
Exploration.....	4	
Gastro-enterostomy.....	9	
Suture of intestines.....	5	2 gunshot wounds.
Enterectomy.....	2	
Cholecystotomy.....	2	
Suture of bladder.....	1	
Colostomy.....	2	1 for amebic dysentery; 1 for cancer of rectum.
Operations for hernia.....	167	
For radical cure—		
(1) Oblique inguinal.....	153	141 Bassini; 10 Ferguson; 1 Halstead; 1 Andrews.
(2) Direct inguinal.....	2	
(3) Umbilical.....	2	Successful.
(4) Ventral.....	3	Do.
(5) Femoral.....	3	
For strangulated hernia.....	2	
Inguinal.....	2	1 died.
OPERATIONS ON THE RECTUM AND ANUS.....	82	
For fistula in ano.....	28	
For anal fissure.....	4	
For hemorrhoids.....	50	
By clamp and cautery.....	28	
By ligation and excision.....	18	
Whitehead's operation.....	3	
Dilatation of sphincter.....	1	
OPERATIONS ON THE BLADDER AND URETHRA.....	91	
Upon bladder.....	7	
Median perineal cystotomy.....	3	
Suprapubic cystotomy.....	4	
For stricture of urethra.....	84	
(1) By gradual dilatation.....	30	
(2) By forcible dilatation.....	7	
(3) By internal urethrotomy.....	24	
(4) By external urethrotomy.....	23	
OPERATIONS ON THE KIDNEY.....	6	
Decapsulation (Edebohl's operation).....	4	
Nephrotomy.....	1	
Nephrectomy.....	1	
OPERATIONS ON THE MALE GENERATIVE ORGANS.....	208	
For phimosis.....	131	120 circumcision; 11 dorsal incision.
For paraphimosis.....	3	3 circumcisions.
For varicocele.....	31	
For hydrocele.....	36	
(1) By tapping.....	7	
(2) By tapping and injection.....	3	
(3) Excision of parietal part of sac.....	26	
For castration.....	5	
Prostatectomy.....	1	
Retained testicle.....	1	
OPERATIONS ON THE FEMALE GENERATIVE ORGANS.....	1	
Abdominal section—		
For removal of ovaries and pus tube.....	1	

TABLE XV.—NATIVITIES OF PATIENTS TREATED IN UNITED STATES MARINE HOSPITALS DURING THE FISCAL YEAR ENDED JUNE 30, 1905.

Country.	Number.	Country.	Number.
<b>Total</b> .....	<b>14,661</b>	Ireland .....	833
Africa .....	2	Italy .....	90
Argentine Republic .....	14	Japan .....	26
Austria .....	109	Mexico .....	4
Azores Islands .....	6	Netherlands .....	50
Belgium .....	32	New Zealand .....	6
Canada .....	658	Norway .....	1,062
Cape Verde Islands .....	91	Peru .....	9
Central America .....	5	Philippines .....	4
Chile .....	20	Porto Rico .....	31
China .....	15	Portugal .....	69
Colombia .....	4	Russia .....	107
Cuba .....	5	Scotland .....	174
Denmark .....	205	Spain .....	161
England .....	435	Sweden .....	812
Finland .....	317	Switzerland .....	14
France .....	114	Turkey .....	2
Germany .....	693	United States .....	8,087
Greece .....	65	Wales .....	24
Hawaii .....	8	West Indies .....	226
India .....	6	All other countries .....	44

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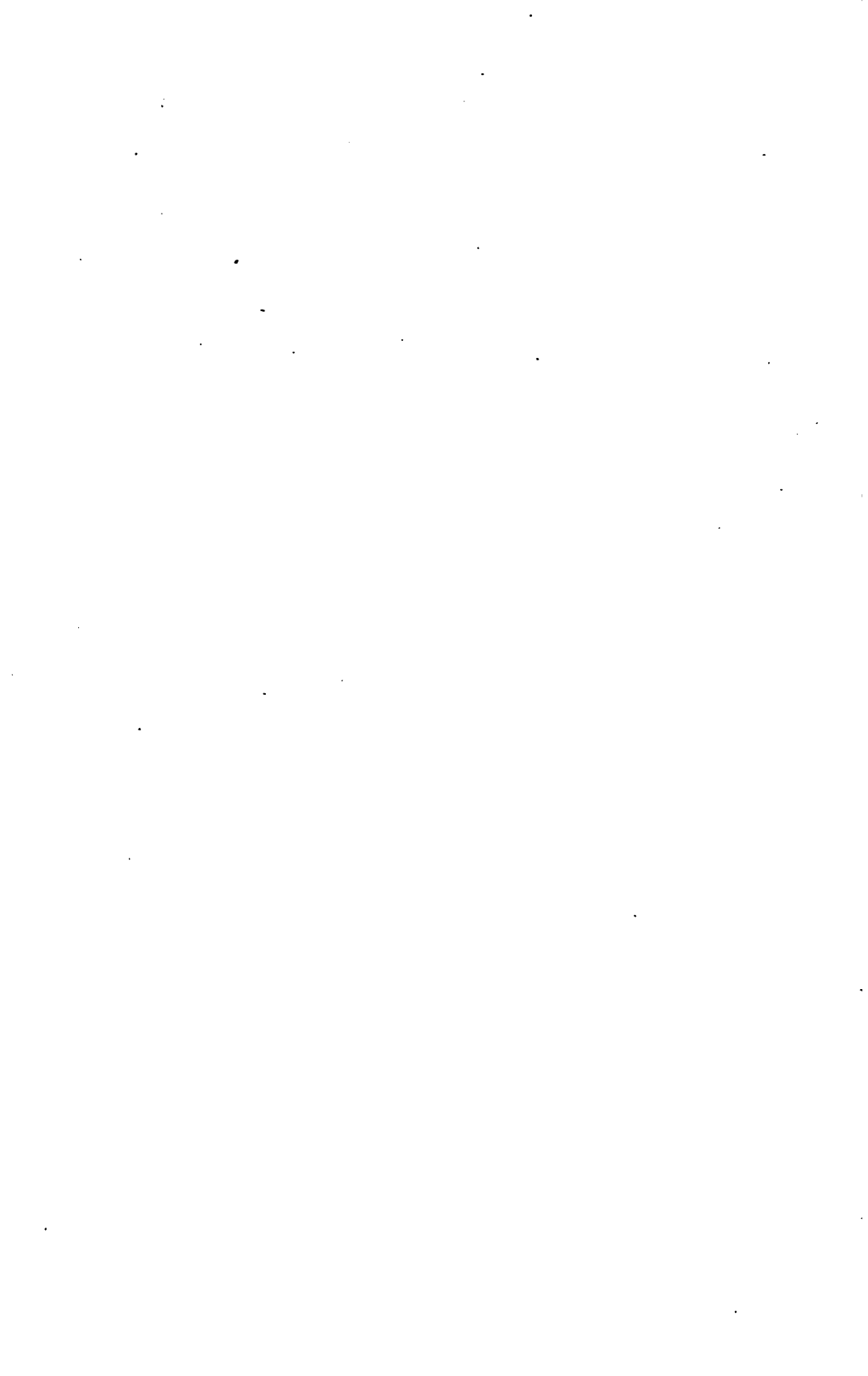
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